PETROLEUM WEEK

JUNE 15, 1956

■ A McGRAW-HILL PUBLICATION

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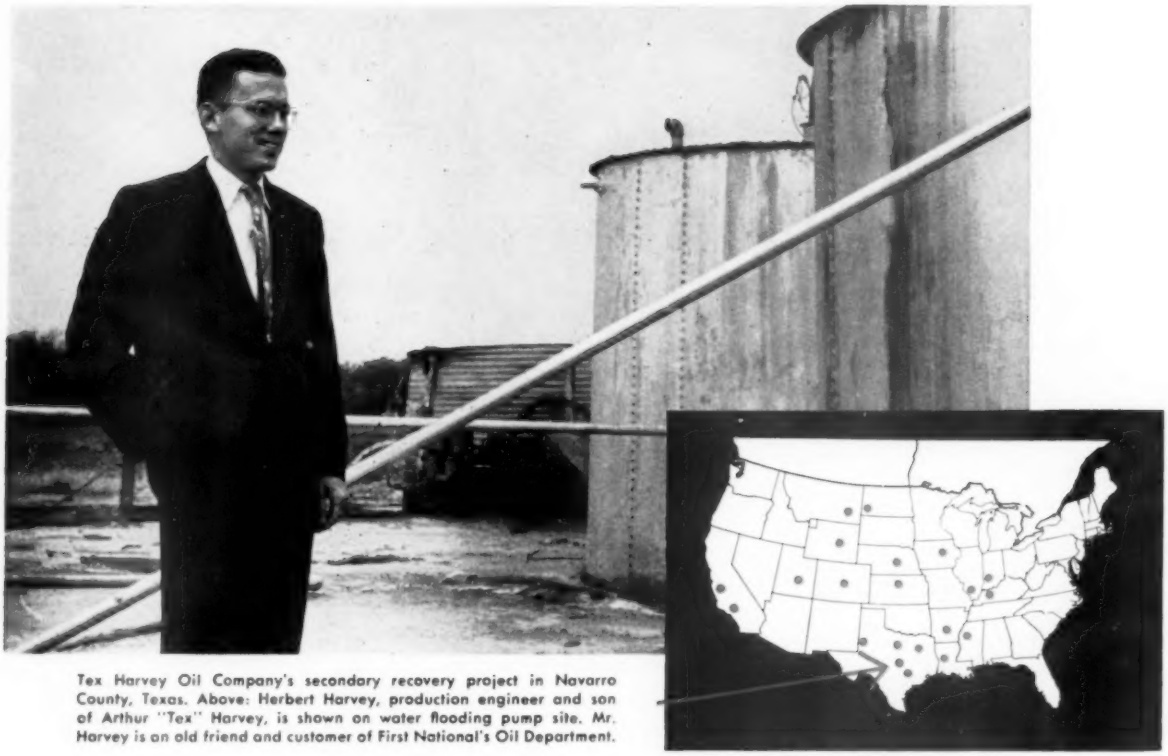

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Vol. 2, No. 24—PETROLEUM WEEK—June 15, 1956

Published weekly by McGraw-Hill Publishing Co., Inc., James H. McGraw, (1860-1948), Founder.

Executive Editorial, and Advertising Offices: McGraw-Hill Building, 330 W. 42nd St., New York 36, N. Y. Publication Office 871 N. Franklin St., Chicago 10, Ill. Donald C. McGraw, President; Paul Montgomery, Executive Vice President; Joseph A. Gerardi, Vice President and Treasurer; John J. Cooke, Secretary; Nelson Bond, Executive Vice President, Publications Division, Ralph B. Smith, Vice President and Editorial Director; Joseph H. Allen, Vice President and Director of Advertising Sales; J. E. Blackburn, Jr., Vice President and Circulation Director.

Subscriptions: Address correspondence to Petroleum Week, Subscription Service, 330 W. 42nd St., New York 36, N. Y. Current single copies, 35¢. Subscription rates, all countries: $3 for one year, $4 for two years, $5 for three years. Orders must indicate company, industry division, and position.

Second class mail privileges authorized at Chicago, Ill. Printed in U. S. A.

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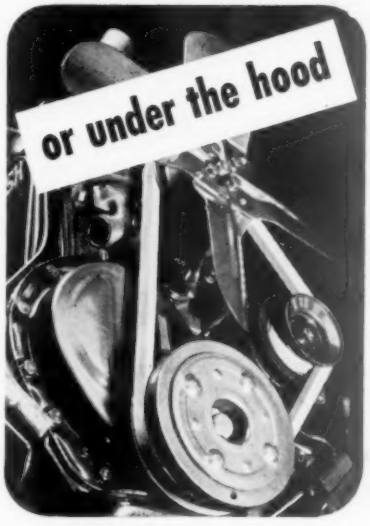

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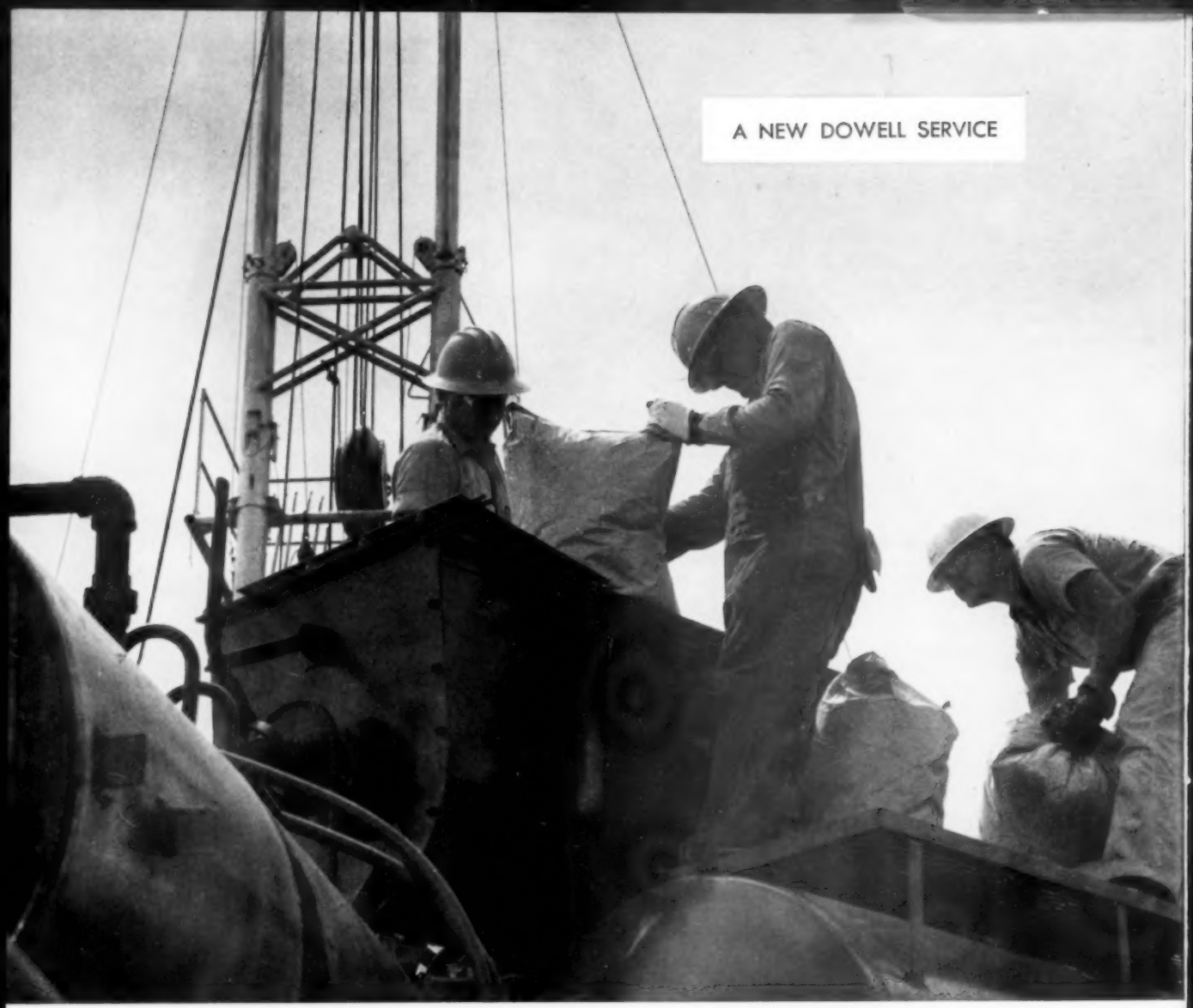

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June 15, 1956

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Offshore activity may be slowed to a walk as a result of a Supreme Court action this week. In a "status quo" order, the court banned further leasing or drilling starts in the entire area in dispute between Louisiana and the federal government until there is a decision on a boundary case now pending. And the court has recessed until October. . . . p. 11

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Many independent producers figure their best chance for getting a crude price hike will be in August or September. One reason: Congress will have adjourned, and it will be long enough in advance of the new Congress to avoid prejudice against any oil and gas legislation. . . . p. 9

•

Standard Oil Co. of Ohio has lost an important round in its effort to break out of its one-status area with the Sohio trade mark. (PW—Jun. 8'56,p29). A federal district court judge this week granted an injunction barring use of the Sohio trade name in Indiana Standard's 15-state marketing region.

•

Additional refinery gases, such as propylene and butylene, may soon be used in plastics and synthetic fibers if new polymerization techniques prove commercially successful. . . . p. 41

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A growing percentage of oil operators would use a lot more small-diameter casing if they could get it. Where practical, they would like to use more 5½-in. diameter pipe—or even 5-in. or 4½-in. The principal motive is to save money on steel and on freight rates. . . . p. 14

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Gas turbines will be tested on a Middle East crude line in a pioneer effort that may point the way for other operators in desolate areas where high horsepower, and unattended pumping facilities are desired. . . . p. 44

•

Canadian oil men are carrying the new stress on fact-telling campaigns to remote corners of the oil field country. Holding public forums, the oil men are answering the landowners' complaints before they crystallize into public hostility toward oil. . . . p. 22

•

The rising cost of buying crude in the ground is underscored by the Atlantic-Houston deal. For its $200-million, Atlantic gets an assured crude source of 17,000 b/d and large gas reserves. But it's estimated these reserves cost Atlantic $1.53 a bbl. . . . p. 10

•

Bolivia's oil future—and the prospects for an important role by U. S. oil men—hinges on the outcome of a current election there. . . . p. 33

Looking Ahead in Washington

McGraw-Hill
Washington
Bureau

June 15, 1956

Full cost data on gas production is being offered for the first time. Tidewater Oil Co. is asking Federal Power Commission approval of a contract price of 18½¢ per Mcf. But the company offers data to show that the price would be much higher if tagged to the cost of production. Tidewater says this should show FPC that the field price of gas can give consumers a better break than a price set through normal utility regulatory formulas.

•

AT-A-GLANCE Copyright PETROLEUM WEEK

Democrats are stepping up their attack on Republican oil policies. The Democratic National Committee is forming a group on natural resources to push the "giveaway" charge in the coming elections. Eisenhower's veto of the gas bill leaves slim pickings. But Democratic strategists will huddle June 28 to lay out a campaign. Two charges are bound to be resurrected: that the administration is allowing oil and gas men to "despoil" wildlife refuges; and that the submerged lands act is a "multimillion-dollar giveaway."

•

Eisenhower's illness is forcing second thoughts on gas legislation. The industry has pinned its hopes for a new bill on expectations that the President will be reelected. If Eisenhower is forced to withdraw, the new White House incumbent—Democrat or Republican—may not have the inclination or the prestige to push such legislation.

•

The oil industry will get a better break on exports, beginning July 1. U.S. negotiators have won tariff concessions from five nations taking part in the General Agreement on Tariffs & Trade. These countries agreed to lower duties on imports of such items as lubricating oils and greases, petroleum jelly, paraffin, and refining equipment. Crude exports won't be affected.

•

Jersey Standard's midwest move is raising eyebrows in Congress. The Senate Small Business Committee is studying the company's purchase of Pate Oil Co., of Milwaukee. Hearings are unlikely, but the committee is publicizing its fears that the move will set off a price war that will hurt small, independent marketers in the area. Observers feel, however, that the Jersey invasion of the Midwest may have the effect of disproving claims that major oil companies "divide up the market."

•

Fair trading of gasoline is endangered by a new court ruling. In a case involving McKesson & Robbins, the U.S. Supreme Court this week ruled that a manufacturer who also distributes his product cannot sign minimum-price-maintenance contracts with independent distributors with whom he competes. The reason: U.S. fair trade laws don't legalize price-fixing between competitors.

•

The worst is over for oil in the Senate lobby investigation. The special Senate committee has heard proponents of the gas bill. It'll hear testimony soon from local gas distribution who fought the measure. But interest in the whole lobby issue has waned.

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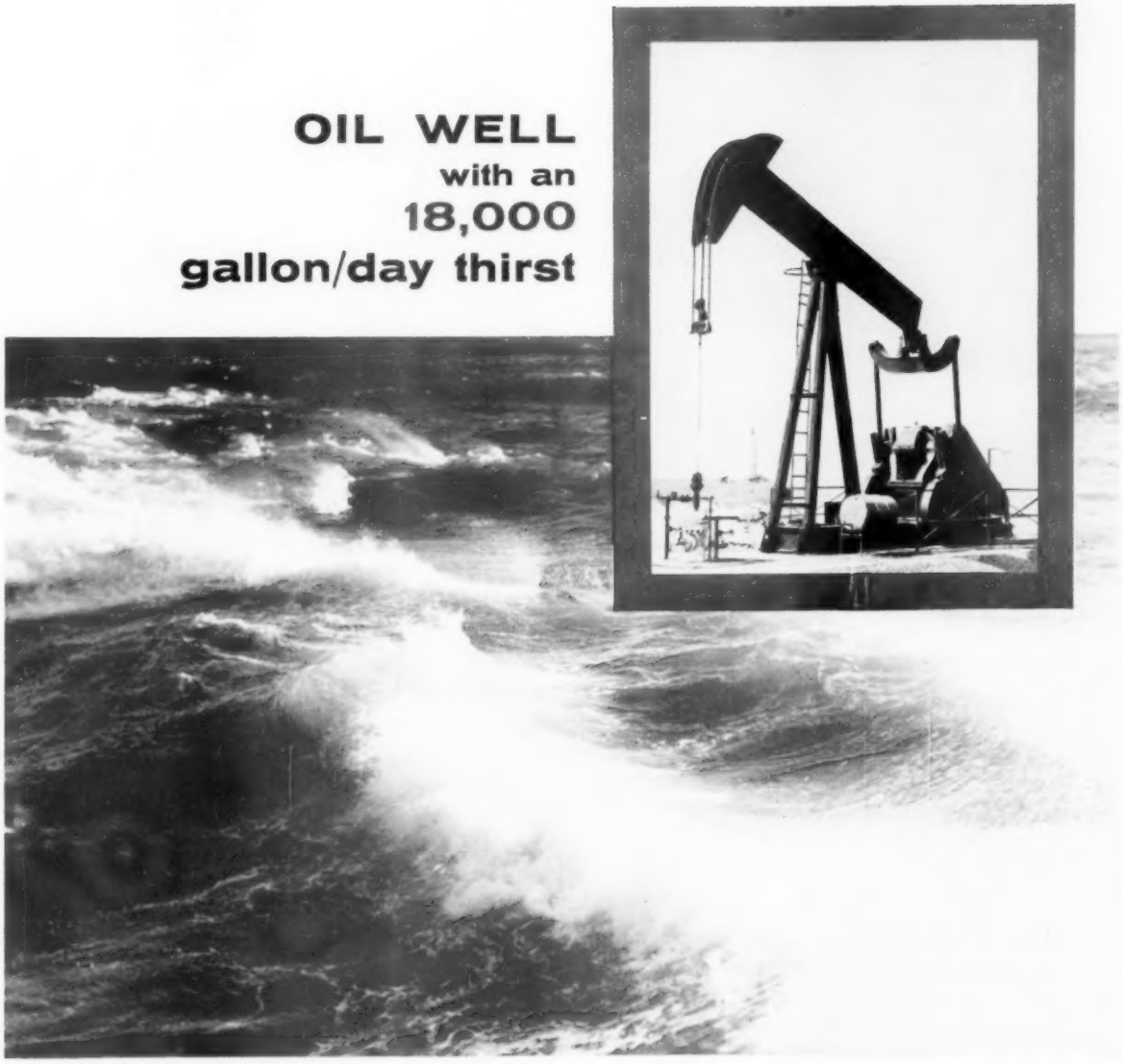

Pumping water into underground oil-bearing formations to force up more oil, more economically, is a big operation in the petroleum industry—and getting bigger all the time. Such water flooding projects now require millions of gallons of water per day, and most of it must be chemically treated to prevent plugging, corrosion, and scaling in the formation, in wells, and in connected equipment. Obviously, these are jobs for Nalco—the world's largest water treating service organization . . . Jobs that Nalco is doing efficiently, and, equally important: economically.

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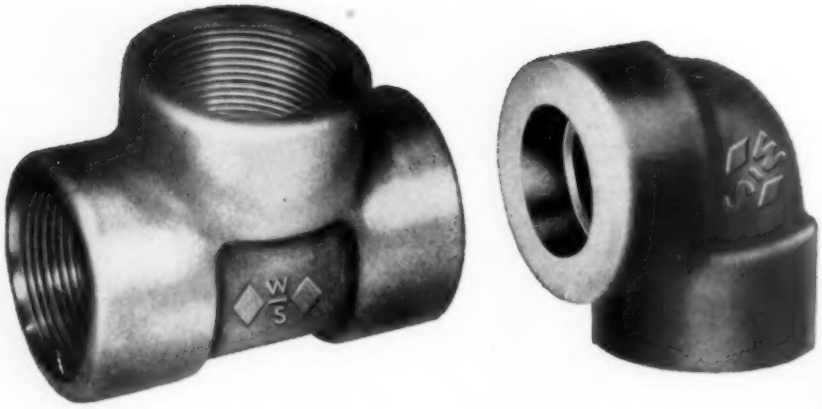

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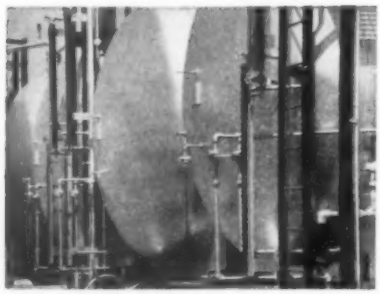

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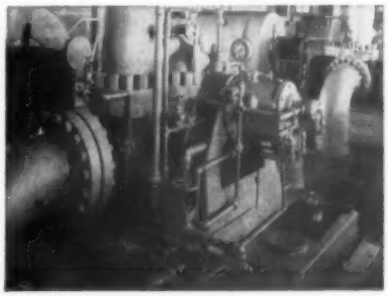

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PETROLEUM WEEK
June 15, 1956

Crude Increase on 'Dead Center'

- Independent producers reluctantly admit that chances of long-sought rise in oil prices are none too bright at the present time.

- Some feel that the boost, if it comes at all this year, will have to be between Aug. 1 and Sept. 30.

Independent oil producers are becoming convinced—very reluctantly—that chances of a crude price increase apparently are stuck on "dead center."

Or as one prominent independent producer put it—"There isn't a Chinaman's chance" at the present.

Neither statement can be interpreted as meaning that the independent producers, who have pushed throughout the year for an upward adjustment in crude prices, are taking an attitude of defeatism. Far from it.

They still contend that an immediate increase in crude prices is both necessary and justified.

But, at the same time, they are well aware of the situation that exists today. This situation is one of too much supply, despite the fact that demand is running well ahead of last year, which was a banner one for the industry.

The independents now anticipate that the price increase, if it comes at all this year, will be between Aug. 1 and Sept. 30.

These dates were picked on the assumption no raise will come until the present Congress goes home, and that any raise will have to be far in advance of the new Congress.

The feeling is that it should be early enough to avoid prejudice in the new Congress against any oil or gas legislation which may be presented.

Should some company initiate a raise earlier than Aug. 1, the feeling exists that the larger purchasers may not meet it. This would, they say, harm the price fight and could delay the increase until next year, perhaps even later.

Moreover, there is considerable doubt among some independents that the supply situation will have cleared up sufficiently to permit a crude price rise even in the Aug. 1 to Sept. 30 period.

The independent producer concedes a point to the integrated companies—that product prices have to go up first to sustain a crude increase.

But the independents' reasoning back of this is slightly different from that of the major companies.

The majors say simply that, before there can be any crude price rise, there must be a demand for all products that is sufficiently strong to justify further upward adjustments in product prices.

The independents' reasoning is based primarily on the public relations angle. They anticipate an increase of at least 1¢ a gal. in the federal gasoline tax to help defray the costs of an expanded highway program. They also feel some of the states may have to advance state taxes for the same reason.

As a result, they fear that, if crude is raised first, then products, the industry will be saddled with the blame for all the added cost to the consumer—despite the fact most of it will result from increased taxes. (PW—Mar. 2'56,p9).

This was the end result back in mid-1953 when the last general increase of 25¢ a bbl. came. The product price raise followed. There was an investigation by Congress. Independents feel certain that another such investigation would come if product increases follow rather than precede the next crude boost.

The independent producer feels that the domestic industry must be in position to find enough new reserves of oil today to provide the consumer with tomorrow's oil.

This can't be done at today's prices for crude, Robert L. Wood of Midland, Tex., president of the Independent Petroleum Assn. of America, told PETROLEUM WEEK last week.

"With steadily increasing costs, there has been no general crude oil price adjustment in three years, and only one small increase in eight years," says Wood. "Under these conditions, domestic producers can not continue to find and develop the domestic reserves needed to keep pace with increasing demand."

Going further, he declared that "we're producing crude in bulk that was found 10 to 15 years ago at 40¢ a bbl. Today, replacement costs exceed $3.16 a bbl. against the average price of $2.83 (PW—Apr.27'56,p10).

"We're playing the game, as I see it, in retrospect. He says, "You can't exist on looking back. You've got to look forward. When you do, and realize the amount of drilling that will be required to meet tomorrow's needs of the consumers, then there is no question of the need for a price increase to stimulate this work in the light of increased costs."

The answer on whether or not the needs of the consumer have been met won't be known for five years, contends Wood.

"If the price rise isn't forthcoming, and we haven't found the oil, the story of inadequacy will hit suddenly," he says.

"I believe there is still enough industry statesmanship not to permit the domestic industry to shrivel on the vine. I don't think the majors want us out of the picture any more than we do them. Both the independent and integrated company are necessary."

The independents believe that, in the last analysis, the attitude of the importers will decide the price issue.

Wood argues that importing company officials who argue against an oil price adjustment on the basis that the supply situation does not justify an increase "are mixing cause and effect."

"If oversupply is a factor," said Wood, "it's an import problem, not a domestic situation."

ATLANTIC'S TREASURER, G. J. Reller and attorney Orrin Knudsen (left) sign papers prepared by assembly line (right) as . . .

Atlantic Gets Crude by Buying Houston

The rising cost of buying crude in the ground is pointed up by Atlantic Refining Co.'s purchase of Houston Oil Co. properties.

A source in close contact with the deal, closed last week in Wilmington, Del., estimates that the purchase price is equivalent to $1.53 per bbl. of oil in the ground (after converting the gas involved in the deal to oil equivalent).

While crude prices have averaged $2.83 per bbl. for 40-gravity for the last three years, prices for crude in the ground have been pushing steadily upward. Such deals were closing at around $1.00 a year ago. Mid-Continent producers now are asking—and getting—from $1.35 to $1.50 a bbl., though distress sales have been made for much less.

The $200-million purchase assures Atlantic, an integrated company, of a sizable supply of crude (about 17,000 b/d) in a period of growing demand.

Atlantic management has called the Houston purchase "a large step in the direction of self sufficiency in crude oil."

They also make it clear that Atlantic will continue an "aggressive program" to acquire more production by purchase.

Houston's proved underground reserves are estimated to include about 77.5-million net bbl. of crude oil and condensate. In addition there are about 987-billion cu. ft. of net proved gas reserves.

Atlantic's crude production totaled 101,518 b/d in 1955. This was 51.74% of the company's refinery runs. After deducting the 85% of Houston's production allocated to satisfaction of the production payment, Atlantic will have a net immediate gain of about 3,200 b/d.

Atlantic also acquired:

- A total of 473 net oil wells and 133 net gas wells, spread over Texas, Louisiana, New Mexico, Oklahoma, and Wyoming.
- A total of about 83,000 net acres of oil and gas producing properties.
- About 877,000 acres of non-producing mineral properties.
- Stock of Houston Pipe Line Co.

Atlantic will pay the market price for crude it retains from the total set aside for production payments, and it undoubtedly will take all of it. But no payments will be required on production that may come from presently undeveloped leases.

Under terms of the agreement, Atlantic paid Houston $73½-million outright. An additional $125-million was paid by a group of investors headed by New York's Chase Manhattan Bank. It is this latter sum that will be satisfied from 85% of the oil and gas produced from the newly acquired properties. It's estimated that these production payments will be completed in about ten years, at which time all of the production will belong to Atlantic. The remaining 15% of present production will be used to finance the producing properties.

Atlantic officials stress that the oil in the ground now belongs to Atlantic. The company can use the oil itself—and pay the market price—or sell it, an unlikely event. In either case, the proceeds from the 85% involved go to the investors' group.

At a press conference following the Wilmington closing, Lawrence Sunkel, vice-president and general manager in charge of production, said it would be Atlantic's policy to be "aggressive" in development of leases.

Most of the undeveloped leases involved are located in Texas, Louisiana, and Wyoming.

Atlantic's president, Henderson Supplee, Jr., says "several" offers to buy Houston Pipe Line Co. have been received and are being given "careful consideration."

The pipeline company was a wholly owned subsidiary of Houston Oil. It owns and operates a gas pipeline system consisting of about 761 mi. of transmission lines and 408 mi. of gathering and distribution lines, all in Texas.

Supplee reported in Wilmington that, "It's too early yet to say what our position is. We don't even know if we want to sell. But we are making studies and seriously considering all offers." He added that no company has the "inside track" at this time. He left the feeling that if any offer is "right," Atlantic will sell.

Houston Oil, meanwhile, is going through its final weeks. A core of top management is handling details of the winding up, which may take several months.

The first liquidation payment—$162 a share—already has been made to the nearly 4,000 shareholders. A final payment of about $4.00 to $4.50 a share will be made in a few months, when dissolution is completed.

It's estimated that since Jan. 6 about 25,000 copies of deeds and other legal documents—containing about 2-million pages—have been prepared, printed, and processed. The transfers of title to more than 6,000 separate properties were recorded in some 155 counties in ten states.

Offshore Ruling Delays Drilling

Virtually all leasing and new drilling in the entire Louisiana offshore area appears to have been "frozen" by the "status quo" order issued by the U.S. Supreme Court this week.

There was widespread uncertainty over the exact meaning and extent of the court's ruling. However, it obviously will have a tremendous impact upon offshore operations until some settlement or clarification of the dispute is reached.

The court ruled there should be no further leasing—nor the start of any new drilling—in the disputed area until the court acts on a boundary case now before it. That action is not due before October.

This week's court action was in response to a plea from the Justice Dept. to stay a Louisiana court order which had effectively thrown a monkey wrench into federal plans to offer 511,726 acres for lease.

One question which arose quickly following the court's ruling was this: What areas are included in the court's ban?

The first impression of some company attorneys was that only the areas in the recently attempted lease sale were involved. If so, tracts previously leased in the disputed zone would not be affected.

An Interior Dept. official said it seemed clear that the court's order applies to the entire area in dispute between the state and the federal government. He estimated that 95% of the activity in the entire Louisiana offshore area would be included in the ruling.

The federal government claims the state's offshore area extends only 3 mi. from its coastline. The state claims three leagues from an old Coast Guard "line" which in some instances is several miles seaward from the water's edge.

Therefore, the disputed area extends for as much as 30 to 40 mi. at certain points.

The controversy over location of the shoreline is one of the points to be cleared up in the suit now pending before the Supreme Court.

There may be a compromise agreement which would permit resumption of drilling in the disputed zone. The court left the door open for such a development when it said that no drilling could begin "unless by agreement of the parties filed here."

Congressional Scoreboard

A major part of any session of Congress is devoted to sound and fury, while most of the actual work is jammed into the closing days. The present Congress is now nearing the "working" stage when it must make up its mind on many issues, including these which are important to the oil industry:

Premerger notification. The Senate will act soon on a bill requiring that the government be given 90 days notice of large companies' intent to merge. Growing opposition from independent oil producers and other businessmen makes final passage a toss-up. A similar measure has passed the House.

Price discrimination. The Patman-Kefauver bill, which would end good-faith meeting of competition as a full defense to price-discrimination charges, was passed overwhelmingly by the House this week. However, chances are good it will fall victim to the adjournment rush in the Senate.

Motor fuel taxes. Both houses of Congress have passed bills authorizing a multibillion-dollar highway-construction program, to be financed largely by higher taxes on gasoline, diesel oil, and special fuels. Once differences in the measures are worked out, White House approval is certain.

Depletion. Bills to reduce the oil and gas depletion allowance from 27.5% to 15% apparently will die in both House and Senate.

Alky-gas. Senate hearings may be held on measures intended to encourage blending of alcohol with motor fuel to promote manufacture of alcohol from surplus agricultural products. Enactment is virtually out of the question at this session.

Foreign trade. Congress is not likely to pass the bill authorizing U.S. membership in the Organization for Trade Cooperation.

FTC investigation. A bill authorizing funds for an ambitious investigation of the oil industry by the Federal Trade Commission still pends before the Senate Commerce Committee. It is increasingly doubtful that anything more than a token appropriation—if that—will be voted.

Public lands development. The Engle bill, which would require congressional approval before 5,000 acres or more of public lands could be turned over to the Defense Dept., is pending before the House Interior Committee. Its fate is uncertain.

Production payments. The Mills bill, which would make sales of oil and gas production payments subject to the regular income tax rather than the capital gains tax, is stalled in the House Ways & Means Committee. Enactment is very doubtful.

Pollution. The House and Senate will iron out differences in bills giving the federal government more control over water pollution, following House action—expected this week. An appropriations bill including some $3-million for air pollution control work is being given the final touches in a House-Senate conference committee.

Bills defeated: The Harris-Fulbright bill easing federal control of gas producers was vetoed by President Eisenhower.

What's New / IN THE INDUSTRY

Hughes Clarifies Turbodrill Deal

Hughes Tool Co. made a couple of clarifying points this week on its new French turbodrill agreement: The turbodrill is a power tool, and Hughes' sole concern is developing rock bits for use with it. Hughes will neither manufacture nor market the device itself under its arrangement with Les Establissements Neyrpic, S.A. (PW—Jun.8'56,p12).

Just back from France, M. E. Montrose, Hughes vice-president for sales, said there has been "misinterpretation, in some quarters," of the company's agreement with the French firm.

"Our exclusive license agreement with Neyrpic gives us the right to collaborate with Neyrpic and develop the specialized rock bits that will be used by the turbodrill, as compared with manufacturing the Neyrpic turbodrill itself. The previous Hughes' announcement clearly stated Hughes has no plan for construction of the turbodrill itself."

Hughes indicated that it is planning a lengthy and exhaustive research program, looking toward development of efficient bits for the turbodrill.

"The turbodrill itself is not a cutting instrument, as some have assumed," Montrose explained. "It is a down-the-hole hydraulic prime mover for turning the bit on the bottom at a higher rate of speed than is practiced with present rotary equipment. Our interest is to develop rock bits that can be adapted to these higher rotating speeds."

•

Dresser Gets Licenses

Dresser Industries, Inc., has concluded two licensing agreements with French companies. It also announced formation of a new French company to represent some Dresser Industries' companies on the continent.

One of the licenses was signed with Les Establissements Neyrpic, S.A., in Paris. It grants Dresser exclusive license to build in Canada, the United States, Mexico, and Venezuela, Neyrpic's new hydraulic turbine for oil well drilling.

The other license was between Clark Bros. Co., one of the Dresser Industries, and Les Establissements Dujardin, of Lille.

It calls for the manufacture in France of Clark reciprocating compressors—gas, steam, electric, and diesel driven.

The newly formed company is Societe Francaise des Industries Dresser, S.A. Headquarters will be in Paris.

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Seven Majors Sued

Gerald B. Waldron, a Colorado oil broker, filed suit this week against seven major oil companies, claiming they "conspired" to prevent him from selling 15-million tons of Iranian crude oil in the United States.

The suit, filed in the U.S. district court for the Southern District of New York, names these defendants:

British Petroleum Co. (formerly Anglo-Iranian), Cities Service Co., Gulf Oil Corp., Socony Mobil Oil Co., Standard Oil Co. of California, Standard Oil Co. (N. J.), and The Texas Co.

Waldron charges these companies violated U.S. antitrust laws. He is seeking $109-million in triple-damage payments.

Most of his charges against five of the firms—Gulf, Socony Mobil, California Standard, Jersey Standard, and Texaco—are similar to those made by the federal government in its "cartel" suit now pending against them.

Waldron's suit goes further, however, in charging that Cities Service became a part of the "conspiracy" in order to get access to Middle East crude.

Waldron claims that Cities Service became involved in this manner:

- In May, 1952, Waldron says, he got an exclusive agreement with the National Iranian Oil Co. for sale of Iranian oil in the U.S.
- Cities Service, Waldron claims, indicated to him "a great interest in purchasing his entire supply and in obtaining a managerial contract for all Iranian oil."
- Waldron obtained, at Cities Service's request, an invitation for W. Alton Jones, then its president, to inspect the Iranian facilities.
- After full inspection, Waldron states, Jones proposed that Cities Service manage the oil facilities while training Iranians ultimately to manage their own oil operations.
- "Learning of Cities Service's intention . . . ," Waldron charges, "Gulf and Anglo-Iranian conspired to and did offer Cities Service and Cities Service did accept a vast long-term supply of Kuwait oil." Waldron says the price was $1 a bbl.

As a result, Waldron claims, Cities Service broke off negotiations with him.

Socony Mobil was the only company issuing an immediate public comment on the action. The company said: "The suit against Socony Mobil has absolutely no valid basis."

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Sohio Petroleum Co. has reduced posted well prices of Illinois Basin oil by 10¢ per bbl. to meet competition. The new price, effective this week, is $2.90 per bbl.

In its announcement, the company, a subsidiary of Standard Oil Co. (Ohio), said the cut will partially restore the competitive position of Illinois-Indiana-Kentucky crudes in relation to other crudes available to Sohio refineries.

•

A general outline of duties for the single-manager defense petroleum agency will be ready by June 15. The policy directive will be submitted by the three military services to Louis Cotulla, petroleum logistics director. If accepted, the draft will be forwarded to Defense Secretary Charles Wilson for his signature.

The new agency, to be known as the Armed Services Petroleum Agency, is expected to be in operation after Sept. 1.

•

The Interior Dept. has put another stop order to oil and gas leasing in federal wildlife refuges pending a further study of problems involved. The order is the first action since a previous stop order was lifted last December. Since then, six leases have been granted by the department under new regulations. But House and Senate hearings brought pressure for reconsideration.

•

Full production has resumed at Lion Oil Co.'s 27,500 b/d refinery in Eldorado, Ark., following settlement of a 14-week strike. Terms of the new contract were not immediately disclosed. Wages were the principal point of difference when negotiations broke down in early March. A supervisory force has been operating the plant on a partial basis for the past month.

About 350 Lion employees, members of Local 381, International Union of Operating Engineers, were affected.

PETROLEUM COMMENTS / By W. M. Jablonski

'Outsiders' Should Tread Softly

Canada's Foreign Minister made a point the other day which every U.S. oil man who wants to protect his investments in Canada—or in any other foreign country, for that matter—should note carefully.

It was a simple point. But a profound one:

Step on a country's national pride, and you step on dangerous ground. Particularly if you're a foreigner drawing on that country's natural resources.

* * * *

Lester B. Pearson, Canadian Secretary of State for External Affairs, made his point with exemplary tact.

First, he complimented the Refining Division of the American Petroleum Institute for holding its 21st mid-year meeting—an important meeting devoted to scientific and technological progress—for the first time "on Canadian soil" (in Montreal).

Then he gave due recognition to the essential—in fact, indispensable—role played by U. S. capital and technical skill in developing Canada's oil industry, and the great benefits this was bringing to his country's entire economy.

Noting that $3.5-billion had been poured into exploration and development of Canadian oil and related industries since 1946, he remarked:

"We clearly could not have undertaken any such programs on our own. For these great results, great resources were needed so that great risks could be taken." (For instance, 133 dry holes were drilled before the great 1947 discovery at Leduc.)

"Only companies or organizations with vast international resources are able to operate on a scale large enough to offset great losses in one area against great gains in another.

"We should not forget this", he said, "When we hear cries of 'foreign domination,' or 'predatory American interests,' or even 'Texas buccaneers' ."

* * * *

Then the Minister drove home his point:

"These exaggerated fears and this unfair criticism should not, however, obscure the fact that some aspects of foreign participation in Canadian development do cause uneasiness."

For instance, he said that "all too often" it's impossible for Canadians to buy stock in, and thus participate in the ownership of, a Canadian subsidiary of a U. S. corporation. As things now stand, in many cases Canadians can only buy stock in the parent U. S. company, and not in the Canadian operating subsidiary itself.

Pearson was sympathetic with the extensive and difficult corporate rearrangements that would be required to change this in the case of some wholly-owned subsidiaries.

"But I would suggest," Canada's Foreign Minister said with emphasis, "that foreign corporations with wholly owned subsidiaries in Canada might do well to give some thought to the benefits to their Canadian operations that could follow from arrangements of this kind. Wherever possible, it is desirable that the ownership of any Canadian company should be open to possible Canadian participation."

* * * *

Why? Because Canada is "proud of its national development," and "determined to maintain control of that development."

While Canada welcomes U. S. oil participation, Pearson said, "it is also true that national feeling and national pride are strong in our country.

"This is something that should never be overlooked by those from outside our borders who are participating in our progress and who are helping us achieve the great national destiny which is ours. That destiny . . . will be a distinctly Canadian destiny."

* * * *

Every American can recognize the simple truth of these words applied at home. And what's true at home is equally true at other people's homes.

Pearson's comments apply, of course, far beyond the mere question of Canadian participation in U. S.-owned units in Canada. They apply to the whole field of basic human relations: the need for viewing ourselves in Canada as Canadians view us; for never forgetting that in Canada we are indeed people from "outside their borders"—participating and helping, it's true, but participating and helping only as long as we remain welcome guests.

* * * *

Thus far, U. S. oil interests haven't run into much "anti-foreign" hostility in Canada. But the strong Canadian national pride is there, near the surface. And there are signs of growing irritation. Any doubt on this point should have been dispelled by the uproar over the U. S. role in the Trans-Canada natural gas pipeline. This has now become one of the hottest political issues in recent Canadian history.

If U. S. oil interests do not tread softly, their oil activity, too, may become a political issue in Canada.

RACKS OF SMALL PIPE, seen more and more on drilling locations, are sign of . . .

Trend to Smaller Pipe

Lower cost, lighter weight recommend smaller pipe to operators. But it has its disadvantages, too.

Oil operators who drill in the Mid-continent, along the Gulf Coast, in West Texas and New Mexico, and in the Rockies like small-diameter casing—5½-in. o.d. and below—and would use a lot more of it if they could get it.

A check among several operators and suppliers this week by PETROLEUM WEEK shows that the supply of 5½-in. casing, in particular, is inadequate to meet the increased demand.

Operators say the supply companies don't have enough to go around because the steel mills don't like to mess with small-diameter stuff.

The steel mills recognize the trend toward small-size pipe. In fact, one supply company president predicts that within three to five years, 7-in. casing would be considered in the large diameter category.

His opinion was that no more steel should be put in the ground than necessary.

In oil trade parlance, the breaking point between large and small diameter pipe now is 7⅝-in. o. d.

The big reason for the preference of 5½, 5, and 4½-in. casing over the larger-diameter pipe is the substantial saving in steel costs and freight rates.

Equipment suppliers agree that the operators have a good point. The price of oil field casing varies with the type and diameter. Various types have different weights. Consequently, 7-in. casing weighing 20 or 24 lb. per ft. will cost considerably more than 5½-in. pipe, which runs around 14 lb. per ft.

"A string of 5½-in. J-55, set to 3,500 ft.," says a Tulsa oil field equipment supplier, "delivers at the well for around $1.50 per ft. The 7-in. casing, weighing about 20 lb. per foot, will cost the operator from $1.75 to $2 a ft., delivered. So you can readily see the savings to be realized."

The use of small-diameter casing is tied in closely with the use of "slim-hole" drilling by various operators. How much more small-diameter pipe will be sold in the future depends a lot on how much slim-hole drilling increases.

There are differences of opinion as to just what constitutes a "slim-hole." Generally, however, according to the operators contacted by PETROLEUM WEEK, any well that is drilled for running of 4½-in. casing is a slim hole.

"Some operators call anything using 5½-in. casing or smaller a slim hole," says one major operator in the Rocky Mountain area. "But we classify a hole using 5½-in. pipe as a normal drilling operation."

One equipment supplier thinks that slim-hole drilling is "just a passing fad."

He looks for a continued high demand for 5½-in. casing, as well as other larger-diameter pipe, but he isn't sure about 4½-in.

"I can remember that there were proponents for 'slim' holes 20 years ago," he says. "But I maintain that all this fuss about saving money on casing, drill pipe, and tubing by going to smaller diameters is greatly exaggerated. The operator forgets oftentimes that while he may think he's saving, he loses in the long run. I think that operators will wake up one of these days, and I don't think slim-hole drilling will ever get beyond the specialty stage."

Many operators and some suppliers don't agree. They think slim-hole drilling has a pretty good future, and some oil companies are enthusiastic about it (PW—Mar.9'56,p14.)

Most of the operators contacted by Petroleum Week say it's just common sense to use cheaper, lighter-weight casing whenever possible.

But they point out that the use of various grades of casing and the various diameters depends largely upon the area.

"It would be utterly silly," says an operator, "for us to use 7-in. heavy-type casing on a well that we knew could be drilled and completed successfully with lighter-weight, less-costly 5½-in. pipe. But, on the other hand, we wouldn't think of using 5½-in. pipe just anywhere simply because we like the size of it.

Several other operators say they use 4½-, 5-, or 5½-in. casing "wherever possible," but add that there are areas in which they operate, particularly along the Gulf Coast, where it would be "catastrophic to use anything but heavy 7-in."

The trend toward use of small-diameter casing is not new. Some operators started gradually shifting from 7-in. to 5½-in. back in the mid-30s, during the depression, to save money. The practice slowly caught

news pictures

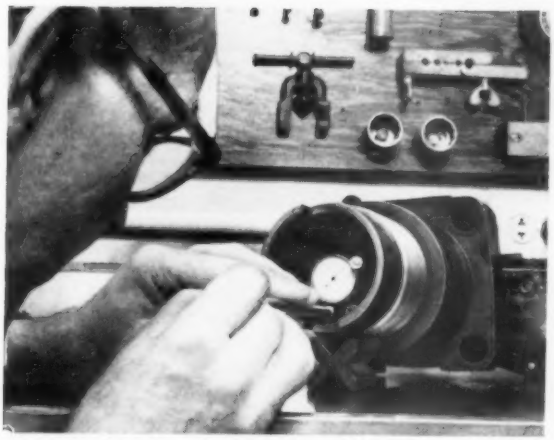
by your Ethyl Service Reporter

LINES WHICH HAVE CONTAINED CONCENTRATED FLUID MUST NOT BE OPENED OR DISMANTLED EXCEPT IN THE PRESENCE OF A REPRESENTATIVE OF ETHYL CORPORATION

THE ONCE-OVER—(Left) Larry Matthews, safety engineer in the New Orleans District Office, checks mixing-plant equipment at a Louisiana refinery. By making these periodic maintenance inspections, Ethyl is able to help refiners keep their blending plants in safe, efficient operating condition.

ATOMS AT WORK—Radioactivity is being used by Ralph Loehr to study the wear of engine parts at the Detroit Research Laboratory. This is only one of the latest research techniques Ethyl uses to help customers produce the most efficient fuels and lubricants.

ETHYL CORPORATION
New York 17, N. Y.



ENGINE CHECK—One Ethyl service can lead to another. George Gier, at Ethyl's Yonkers Gasoline Testing Laboratory, is shown checking the cylinder head of a CFR knock-test engine. The long experience of the Gasoline Testing Laboratory people and their specialized equipment often come in handy helping customers keep CFR engines up to A.S.T.M. standards.

FIRST SHOWING—Ethyl's "Fire Power" show has taken on a new dress. Harold Mehler is shown putting on the first demonstration of the new show. New features dramatically demonstrate the safe handling of gasoline and make this popular training aid even more valuable to the petroleum industry.

Casing Shipped by U.S. Manufacturers

Size (o.d.)	1955 (Percent of Total Tonnage)	1954 (Percent of Total Tonnage)	Change
4½-in.	2.123%	1.038%	+1.085
5-in.	.968	.957	+ .011
5½-in.	36.083	32.071	+4.012
6-in.	.008	.049	— .041
6⅝-in.	.577	.804	— .227
7-in.	24.485	28.829	—4.344
7⅝-in.	3.145	3.849	— .704
8⅝-in.	5.837	5.248	+ .589
9⅝-in.	12.694	12.275	+ .419
10¾-in.	8.777	9.966	—1.189
11¾-in.	.836	.774	— .062
13⅜-in.	4.080	3.612	+ .468
16-in.	.261	.348	— .087
20-in.	.133	.180	— .047
Total	100.000%	100.000%	

Source: API Division of Production, Dallas.

on, and during the following World War II the trend increased.

And the trend has not stopped with oil field casing. Operators have been demanding smaller-sized drill pipe to cut costs, and they've been trying to get smaller-diameter tubing—tubing that will do just as good a job but that will cost a lot less.

Consequently, a lot of research and experimentation has gone into casing, drill pipe, and tubing development, as well as the designing of smaller-diameter suckers rods.

"Some operators have been drilling with small diameter tubing—light weight stuff, but suitable for shallower operations, and particularly for the drilling of water-injection wells," says one equipment supplier.

Operators claim there are other reason; besides savings in cost of steel and freight which make them favor smaller-sized casing:

- Less weight per foot, which means smaller equipment can be used throughout to drill a well.
- Better contract-drilling rates, due to use of lighter equipment.
- A chance for a "look-see" down under with less capital risk, which, if unfavorable, will mean a minimum of expense, but which, if favorable, can enable proper planning of further tests.

But operators are quick to point out that there are some disadvantages that go along with small-diameter casing, too:

- Trying to find small-diameter drill pipe to be used in drilling the holes. Since 4½-in. casing requires 3½-in. drill pipe or smaller, this presents a problem, for this item has been in short supply for some time.
- Getting bits that will function properly, make enough hole to prove worthwhile. Teeth on small-diameter bits don't "bite" as well as larger bits, and when they do, they don't hold up. And, one operator says, "You can't get a bit below 6¾-in. that has bearings that will hold up." This means more "round trips" to change bits, which might well eat up the savings on the small-diameter drill pipe and casing.
- In remedial work—such as cleaning out, pulling tubing, reperforating, etc.—anything below 5½-in. is sometimes difficult to work in. "You need all the room you can get down there," says one operator.
- You can't use 5½-in. casing or smaller for dual completions. This is because no tubing small enough to be run in tandem is available that will fit into 4½-in. or 5½-in. casing.

The American Petroleum Institute's compilation on tonnage of casing shipped by U. S. firms (table above) points up the increasing use of 4½- and 5½-in. casing. The survey also shows that 7-in. and 7⅝-in., have been dropping off in demand.

In 1955, the manufacturers shipped better than 2% more 4½-in. casing than they did in 1954. The 5-in. pipe showed only a slight increase, but 5½-in. jumped more than 4%.

The study showed that 4½-in. casing shipped in 1955 was 2.1% of total tonnage, compared with only 1.03% in 1944. The 5½-in. casing, the largest seller, rose from 32% of total tonnage shipped in 1954 to 36% of the total tonnage in 1955.

On the other hand, 7-in. casing dropped 4.3% in 1955 to 24.48% of total tonnage, compared with 28.82% of total tonnage in 1954; 7⅝-in. dropped from 3.84% to 3.14% in the same period.

However, it will be noted that 8⅝-in., 9⅝-in., and 13⅜-in. o.d. casing showed increases in 1955 over 1954. In fact, 9⅝-in. casing ranks third in total tonnage shipped. This is because of deeper drilling.

"A lot of deeper wells need protection strings," says one Mid-Continent tubular-goods supplier, "and I look for a continued increase in the larger-diameter casings for this reason."

In an independent survey made early this year by Leslie Brooks & Associates, of Tulsa, Okla., 17 oil field-equipment companies operating in the Mid-Continent and Gulf Coast reported sales of more than 74-million ft. of 5½-in. pipe during 1954, compared with only 55-million ft. in 1953.

These same companies sold only a little over 43-million ft. of 7-in. casing during 1954, compared with sales of more than 46-million ft. in 1954.

API also has figures that show that, for all grades and sizes of casing, shipments in 1955, including exports but not including foreign casing brought into this country by operators, totaled 1,985,000 tons. This compares with 1,787,116 tons in 1954 and 1,514,509 tons in 1953. Increases were also shown in 1955 in tubing tonnage and in drill-pipe tonnage.

Whether or not the trend toward smaller-diameter casing continues drill pipe, and tubing, operators and equipment suppliers are agreed on one thing: The demand for all is expected to continue high for many years to come.

Right now, although 5½-in. casing and smaller is in tight supply, the most critical shortages are in the tubing lines.

It has been a continuing thing, with a little shortage one year piled on top of a little shortage the year before, to the point where the steel industry has never been able to meet the demand.

But with new mills being built by several of the major tubular-goods manufacturers, the supply of smaller-sized goods is expected to be increased eventually.

"The fact that none of the new mills now building will make anything larger than 9-in. o.d. gives you an indication of which way the wind is blowing," says one supplier. "It shows that we are trying to give our customers more of what they want."

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New, low-water-loss cement additive Diacel "LWL" enables you to control thickening time to suit the requirements of wells of all depths and wide temperature range. Versatile Diacel systems give you a choice of densities ranging from 10.5 to 17 pounds per gallon, using ordinary portland cement and Diacel "D" low density additive.

Diacel Cement Systems prevent trouble in the hole. You get better fill-up which reduces damage to pay zone formations due to water lost from the slurry. Diacel cements also help prevent pipe sticking and "flash setting."

You save up to 25% on cementing costs. *And* . . . you get better over-all drilling and completion work with a Diacel cement system. It will pay you to find out more about this new type oil well cement. Send for the full story on Diacel Cement Systems. Free technical handbook on request.

*A trademark

DRILLING SPECIALTIES COMPANY
Bartlesville, Oklahoma

LAKE of salt water like this may become unnecessary with new . . .

Process to Sweeten Water

Operators in Texas oil field are hopeful their pollution problem will be solved by new technique.

A Texas firm claims to have come up with a process to make salt water sweet.

The company is Ocean Minerals, Inc., of Dallas. Its president, Johnny Clingingsmith, says the simple organic chemical process "very definitely" is feasible.

Operators in the Mexia (Tex.) oil field are hoping that the field's large, troublesome salt water production will be turned into profitable by-products through the process.

If it works, it would also cure the operators' long-standing and vexing pollution headache.

Eight operators are producing about 850 b/d of 35- to 36-gravity crude from about 125 wells in the field.

But they have to lift about 15,000 b/d of salt water along with the oil. Geting rid of that brine has been an expensive and tough problem.

A suit brought by the area farmers charging damage due to stream pollution is hanging fire in the courts now. Recently, the Texas Railroad Commission conducted a hearing and laid down the dictum: No pollution, or we'll shut the field down.

At present, the water is pumped into huge pits—more like salt water lakes, since some cover up to 35 acres—where it stays until the next big rain.

When it rains enough for the Navasota River to flow over the top of the Lake Parker dam, the salt water is released into Plummer's Creek and moves on into the Navasota.

The relatively new process developed by Ocean Minerals, Inc., of Dallas, offers promise of knocking out the salt and "sweetening" the water sufficiently for use in irrigation.

Pushing the project is Clingingsmith, a partner in Ocean Minerals with Dr. John J. Miller, a consulting biochemist of Lake Geneva, Wis., and others.

Clingingsmith himself describes the process as somewhat on the "fantastic" side.

He says that tests were run not long ago for a number of research specialists, including some from the industry.

"All of them admitted they saw it happening, all right, but told us 'without knowing what is in the re-agents, it's a mystery,'" Clingingsmith says.

While some who attended the demonstration declined to make an appraisal, a research specialist in a major oil company's laboratories adopts this tone:

"There have been half a dozen claims on this thing. The federal government has worked on it with good technical research teams for a long time.

"A successful process would be worth far more than just its use for oil field salt water disposal. If they can really do it—and keep the cost down—the world will come to their door."

Actually, Ocean Minerals began with a pilot plant at Port Aransas, Tex., using Gulf of Mexico water to extract some 20 different "trace elements" such as gold, copper, magnesium, etc.

A tight lid is being kept on details of the treatment, but it involves use of a "very common substance," Ocean Minerals says.

Clingingsmith says there is no need for installation of any particular facilities—that the whole process consists of moving the water by gravity flow through a series of pits, adding proper chemical re-agents at various stages.

Processing the 15,000 b/d of Mexia brine will produce an estimated 70 tons of salt per day. This poses a problem itself.

The Mexia operators, such as the E. G. Hall Oil Co., are wondering what to do with all that salt. A number of likely salt-consuming companies have been contacted, but only one, Mallinckrodt Chemical Works, of St. Louis, has indicated any interest.

Another possible problem is payment for the treatment. Even a nominal charge is out of the question, operators say.

Clingingsmith says the set-up at the field will determine the cost situation: "If the water can be fed right into a central pit, then it will cost practically nothing. But if we have to run disposal lines to a central disposal point, naturally the expense will be greater."

Clingingsmith figures that it will cost approximately $60 for enough re-agent material to treat about 6,000 bbl. of water.

From that would be extracted about 18 tons of salt, salable for about $2 per ton; plus some 28,000 lb. of trace elements, which could be sold for about 10¢ per lb.

At a $2.85 per bbl. posted price for crude, a spokesman for the Hall company says the operators net between 38¢ and 50¢ per bbl.

"We couldn't afford to pay even a cent per bbl. of water to have it treated," he adds.

There is the possibility, of course, that the sale of the salt and by-products, plus possible sale of the purified water for irrigation purposes, might take care of the entire cost.

Ocean Minerals is looking at Mexia as just the first of what it hopes will be many oil field water-processing programs.

Waterflooding Pays Dividends

Canada's first full-scale pressure-maintenance program through water injection appears to be successful after ten weeks of operation.

Tidewater Oil Co. reports that its program in one of Saskatchewan's major oil producing areas—the Dollard medium-gravity field, in the southwest corner of the province—is raising pressure.

The increase, Tidewater reports, is quite significant in some parts of the reservoir and should make possible a 60% boost in the oil recovery rate by midsummer.

Ultimate recovery of crude oil will be doubled if the program proceeds on schedule.

This is important, since the Dollard field is one of Saskatchewan's biggest producers. Recoverable reserves are estimated to total 2% of proved reserves for all Canada.

Pressure-maintenance programs are common enough. Usually, though—and this is particularly true in Alberta—natural gas is the pressure vehicle.

Water injection has been tried in Canada before, but only on a pilot or experimental scale.

The plan in the Dollard field is basically simple.

The water is obtained from the Viking and lower Blairmore zones at 3,000 ft., and is pumped into the producing zone—Upper Shaunavon member of the Jurassic—1,000 ft. lower, at a rate of 4,000 b/d.

This rate is being increased to 6,000 b/d, which is double the present rate of oil withdrawal of 3,000 b/d.

Tidewater's program in the Dollard field will eventually consist of ten injection wells along the perimeter. The total now is four, with a fifth of testing and observation.

Until the program was started, in mid-March, reservoir pressure in the Dollard field was dropping rapidly.

As a result of water injection, say Tidewater project engineers, there is strong reason to believe the pressure drop has been halted.

At least, the pressure is no longer going down in the reservoir as a whole. It still is declining in the northern sector, but has increased substantially in the south.

Tidewater is the unit operator for four companies. Tidewater itself has a 94% interest; the others are Hudson's Bay Oil & Gas Co., Frontier Refining Co., and General American Oil Co.

The guy on the right is Joe Roughneck. He's the brains and the brawn of the oil industry. Whether he is on a rig in the field or whether he has moved up to be president of his company . . . he knows oil . . . and pipe.

And there's another thing that Joe knows . . . that just around the corner is Lone Star Steel Company . . . the most modern, completely integrated steel mill in the Mid-Continent area of the United States. Lone Star's specialty is manufacturing API casing, tubing and line pipe for Joe's personal convenience. A natural!

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What's New / IN EXPLORATION, DRILLING, PRODUCTION

Flow Cut Threatened

The Denton (Devonian) pool of Lea County, N. M., is threatened with a cut in its allowable by the New Mexico Conservation Commission.

The commission will take a look at the production performances of the field's 108 wells. It charges that the field as a whole has been making an excessive amount of water in the past couple of years.

The commission also notes that the bottomhole pressure of the wells has dropped. Operators have been requested to furnish all available production data and any other pertinent information, so that the commission can determine if the present system of allocation in the oil pool might result in waste.

The June allowable for this field is 21,075 b/d. It was discovered in 1949 and has an average depth of 11,267 ft. A deeper Devonian pay zone was found at 12,582 ft. in 1951. The cumulative production of the field is approximately 25-million bbl.

The ten operators of the field are: Atlantic, Gulf, Magnolia, McAlester Fuel Co., Ohio Oil, Phillips, Shell, Sinclair, Skelly and Stanolind.

•

Rockies Play Rises

Development in the Rocky Mountain states continues on the increase.

Completions in the first five months of 1956 totaled 175 more than in the comparable year-ago period.

Rocky Mountain operators completed 1,772 wells through May, of which 392 were in western Nebraska and 288 in northern New Mexico. By comparison, western Nebraska had 270 completions in the year-ago period, and northern New Mexico had 160.

The increase in western Nebraska is even more remarkable when it is considered that the area had a 91% increase over all previous records in 1955.

Wyoming, Colorado, and Montana are slightly behind the 1955 completion rate.

North Dakota, where a probable decline in activity had been predicted, is running slightly ahead of last year.

Montana's increased emphasis on development is reflected in the record of 72 oil producers from 138 completions this year as compared with 46 oil wells from 161 completions in the first five months of 1955.

•

Oil Interests Bought

South States Oil & Gas Co. of San Antonio, Tex., has agreed to pay $3.1-million to V-T Drilling Co., of Odessa and Evansville, Ind., for an oil interest in the Farmer (San Andres) pool of Crockett County, Tex.

The transaction involves 1,000 acres of oil and gas leases, on which there are 22 producing wells. Each has an allowable of 55 b/d.

South States paid $100,000 cash, with the remainder to come out of 80% of the production.

Gulf Coast Leaseholds, Inc., of Houston, Tex., has purchased a 350-acre block of producing acreage on the west flank of the Mykawa dome in Harris County, Tex., from Jack Frazier, Houston oil man.

There are five wells on the property, with a gross daily production of 180 bbl. from the upper Frio.

Western Development Co. of Santa Fe, N. M., has purchased four oil wells in the Artesia pool of Eddy County, N. M. Consideration was $112,000. The 280-acre lease will be operated by Western Ventures, Inc., a subsidiary of Western Development.

•

Search for oil in the deepest water yet attempted is under way in the Gulf of Mexico, off the Louisiana coast.

The test, in 112 ft. of water, is being made by the CATC group. It is 22 mi. off Grand Isle, La., in Block 43.

The CATC group is composed of Continental Oil Co., Atlantic Refining Co., Tidewater Oil Co., and Cities Service Oil Co. Conoco is operator for the group, which holds some 50,000 acres under lease in the area of the wildcat.

The test is being drilled from a

Service Rig Is Self-Propelled

This self-propelled servicing rig is powered by a German-built 250-hp. air-cooled Deutz diesel engine. The engine drives the carrier on the highway and the drawworks at the jobsite. This effective new application for the diesel engine was made by Ideco, one of the Dresser Industries, of Dallas, Tex. A General Motors torque converter and an Allison three-speed transmission provide a wide range of speed and torque for pulling a heavy string of pipe out of the hole, climbing steep hills, or covering more than 350 mi. in a single day on the road.

platform which cost approximately $1.2-million. It is so constructed that the operator can drill 12 tests from the single platform.

The CATC group, organized in 1946, now has 43 oil and gas wells in 14 fields off Louisiana. The group is the largest leaseholder in the Gulf of Mexico, holding more than 400,000 acres off Louisiana and Texas.

Only last week the group added a dual discovery at No. 2-A State 953, on the Grand Isle block. The well was completed in the Miocene A-2 zone for 176 b/d at 9,220-29 ft., and for 581 b/d from the Miocene A-2D at 10,494-500 ft.

•

A new state mineral board has been appointed in Louisiana. The new board members are:

William G. Helis, New Orleans; Mayo Iles, Clarks; A. B. Harris, Ruston; Winston L. Stokes, Lafayette; Warren J. Harang, Jr., Thibodaux; Sam Manusco, Lake Charles; Albert Gibeau, Lafayette; Dr. M. O. Miller, New Orleans; Gordon Collins, Shreveport; and Drayton Boucher, Springhill.

W. Scott Wilkinson was renamed special counsel in the state's fight for title to the offshore oil area.

•

A ten-year oil and gas lease on 70,000 acres in Terrell County, Tex., has been taken by Stanolind Oil & Gas Co. from Bassett Mineral Trust of San Antonio, Tex.

Consideration was $2 per acre, with no drilling obligation. The acreage is 10 mi. northeast of Sanderson.

•

Reading & Bates, Inc., Tulsa drilling contractor which operates in both the U. S. and Canada, has organized a new company, Reading & Bates Offshore Drilling Co., to drill for oil and gas on a contract basis in the Gulf of Mexico.

The new firm is headed by J. W. (Jack) Bates, Jr., president. He is president of Reading & Bates, Inc., and vice-president of Reading & Bates Drilling Co., Ltd.

•

Drilling Highlights

East Texas—British-American Oil Producing Co. has reported the logging of 85 ft. of saturated section in the Woodbine at No. 1 Weisenhunt, W. Tollett survey, between the Van and Hawkins pools in Wood County, Tex. Cores and cuttings from 9,215 ft. to 9,350 ft., operator reported, revealed a net saturated section of 85 ft. No tests were run at this interval in the wildcat, contracted to the Paluxy.

West Texas—Montoya (upper Ordovician) production has been opened in the North Monahans pool of Winkler County, Tex., at Stanolind Oil & Gas Co. No. 23-A Sealy-Smith, section 52, block A, G&MMB&A survey. Potential was 300 b/d on 24/64-in. choke at 10,090-114 ft. Previous production in the area was from the Devonian and Ellenburger.

North Texas—K&H Operating Co. and Christie, Mitchell & Mitchell, of Houston, Tex., have completed a conglomerate discovery 2 mi. north of Bridgeport, in Wise County, Tex. The partnership's No. 1 E. Gasperson, S. Wood survey, A-896, was potentialed for 224 b/d of 43.8-gravity oil on 16/64-in. choke from 5,496-540 ft.

Colorado—Equity Oil Co. has confirmed discovery of natural gas in the Mesa Verde section of the Piceance Creek Basin, in Rio Blanco County, Colo. Initial open flow test indicated potential of 5-million cu. ft. per day from the Mesa Verde at 7,522 ft. Equity, with 88,000 acres under lease, has completed several gas wells from the basal Green River formation around 2,500 ft.

California—A large-scale workover program is boosting Honolulu Oil Corp.'s daily production in the 29-year-old Round Mountain field, 10 mi. northeast of Bakersfield. Honolulu has gone back into 14 old wells and plans to go back into more to gun-perforate a sand stringer that was cased off in original completion from the Vedder sand at 2,000 ft.

Effect of the opening of the upper sand—the Elbe—has been to boost the yield of some wells from 20 b/d to 44 b/d, from 22 b/d to 73 b/d, from 14 b/d to 25 b/d, from 18 b/d to 37 b/d, to name a few.

Oklahoma—British-American Oil Producing Co. will be the operator at a 17,000-ft. test to be drilled 1 mi. north of Oklahoma's deepest oil well. This was B-A's No. 2 Harrison, completed at 15,250-310 ft. The new test, No. 1 Reed, section 29-3n-5w, will be drilled directionally, as was the first, because of faulted subsurface formations. B-A controls 25% of the new test, with Magnolia Petroleum Co. owning 43.75%, Ohio Oil Co., 25%, Sunray Mid-Continent Oil Co., 3.125% and Edwin L. Cox, of Dallas, 3.125%.

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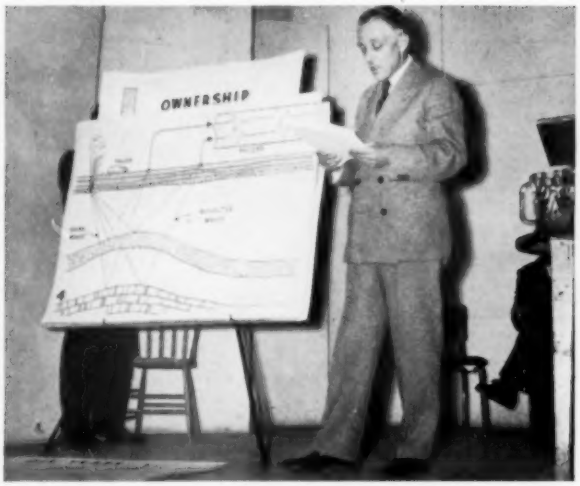

CANADIAN FORUMS start with facts from oil men. Then . . .

QUESTIONS COME freely at coffee break. The result . . .

Oil Field Public Gets Straight Answers

Operating oil men are appearing at open meetings in remote boom areas of Canada's western provinces. Goal: To make friends of suspicious landowners.

Canadian oil men are doing something about the hard feeling that can result when petroleum moves into an area for the first time. Their theory: Public ill will is based largely on misunderstanding—and it can be stopped before it starts. Their practice: The oil men are holding open forums in oil field villages to answer everybody's questions.

The forums are being staged by the Canadian Petroleum Assn. in many parts of the western Canadian provinces. They work this way:

A panel of oil company specialists on exploration and production visits places where the newness of oil operations has caused doubts and conflicts in the public mind. The specialists first explain how the oil companies operate. Then they answer all questions from the townspeople—often a barrage from angry landholders "standing on their rights."

The result, in the words of the association's public relations committee chairman, G. E. Dunlap: "The forums let the steam out of some harmful pressures. The forums are making many good friends for oil. And some of our people are realizing for the first time that rural residents have genuine problems, and are not just complainers."

This week the association is digging into the second half of a 1956 program that calls for visits to 22 towns in Alberta, 12 in Saskatchewan, 6 in British Columbia, and 3 in Manitoba. In each case, the towns chosen are in "sensitive areas."

Backed by about 60 oil companies, the forums underscore an important public relations trend in the U. S. as well as in Canada. This is the greater emphasis on the need for oil men and oil companies to explain to the public how the industry works (PW—May 11'56,p27).

Oil men working on the forum program feel the industry is missing a good bet by not pushing it "on an integrated basis." They point out that the forums are now being promoted solely by exploration and production units of the industry.

They believe integration with the efforts of transportation, refining, and marketing units would be a logical step, since the forum principle applies to any phase of public relations.

A key part of the Canadian Petroleum Assn.'s program is that the oil men who speak to the public are operating men who know both the subject and the area cold. Appearing at forums are such men as Richard Reese (picture), exploration manager with Hudson's Bay Oil & Gas; A. R. Torode, Shell geologist; W. A. Bilbro, superintendent of operations with Sohio Petroleum; and L. W. Hope-Ross, district landman for British American.

The association takes care to get men representative of oil companies active in an area. And it chooses those who are effective speakers, warm and outgoing in normal conversation, and able to talk on matters outside their own specialties.

The speakers usually appear at afternoon and evening forums on consecutive days, so they won't miss more than two days of regular work.

The forums turn their backs on big cities and towns and go out to the villages where companies are finding the oil—because that's where the tempers flare. The forum idea started a few years ago after a sudden eruption of landowners' surface-rights groups in Alberta. As an outcome of the oil boom in the province, the landowners were demanding what the oil companies thought were skyhigh compensations for allowing drilling and other equipment to be moved across their land. Experimental forums showed that a clear explanation of the costs of oil companies usually brought more reasonable requests for compensation.

Since then, oil activity in the western provinces has multiplied many times—in turn, the rate of complaints has soared. In southern Manitoba and Saskatchewan, for example, the most frequent protest comes over compensation for surface rights. Here's why:

Oil companies are operating partly on crown reserves (on which the gov-

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Bit for bit, regular or jet, you will find that *consistently*—day-after-day—you get faster penetration and more hole per bit with Hughes bits. The superior performance of Hughes bits has been proved in hundreds of thousands of wells — not just a hand-picked few — and in the drilling of more than a billion feet of hole throughout the world. HUGHES bits enable you to get your well down in the shortest possible time ... and to take *full* advantage of new drilling techniques.

". . . It's amazing how easily a wrong impression can be corrected when you bring the disgruntled farmer and the friendly oil expert face-to-face. . ."

OIL PUBLIC starts on p. 22

ernment owns the leasing rights for oil exploration, although the land is owned by individuals). Other oil operations are on "freehold" acreage (on which the landowners also own the mineral rights, and are therefore sitting on a potential fortune).

Disputes have arisen over "discrimination" in surface compensation paid by oil companies. As a result, some of the companies have begun paying compensation on every farm where they operate. This antagonizes the "surface rights only" farmers, who will never get anything for the oil that might be under their land.

Observes G. B. McGillivray, secretary of CPA's Saskatchewan division, "With interest in oil running so high, plenty of wrong impressions get around about the oil industry. We're out to correct the trouble."

The typical forum lasts three hours. It starts with four 20-minute prepared papers by oil-company men, on exploration, production, land and leasing, and oil industry progress.

Townspeople are handed pencils and cards as they enter the hall and asked to write down questions to be submitted to the panel. A formal question-and-answer period follows the talks.

Speakers are well-coached in advance on the ground rules: "Don't hedge or hesitate. Give direct answers. Tell the audience you'll answer every type of question except two—on politics or on competitive information.

The questions that really bother local citizens usually come out over coffee and doughnuts, following the formal meeting. Says McGillivray, "I guess we answer ten questions during the coffee period for every one during the panel meeting. These coffee questions are intelligent, too, because they're based on knowledge the audience didn't have before. It's amazing how easily a wrong impression can be corrected when you bring the disgruntled farmer and the friendly oil expert face-to-face over cups of good coffee."

The oil men also use the written questions to pinpoint trouble areas in the thinking of townspeople, and they try to aim the coffee talks toward these. Certain types of questions come up repeatedly, usually with a strong pocketbook interest. Samples:

"Can a farmer get some of the crude oil for his own use?"

"Does the lease expire on my land if a dry hole is drilled?"

"Why are some people getting $10 an acre for oil rights, and others only 10¢?"

To make sure that facts are told in the most effective way, the Canadian association has taken a scientific approach, using advice of consultants in adult education.

First, the association keeps the audiences fairly small, and has taken great care to have the settings comfortable—often a hard job in remote villages. This means seeing that halls are warm in winter, and well-ventilated and lighted. It means providing adequate seating and making sure the coffee is fresh and strong.

And these needs raise the temptation to move in an organization to do the job. There is the further temptation to use some of the more advanced education techniques, such as "buzz sessions," in which the townspeople would form discussion groups.

But the association has avoided elaborate preparations. One reason is that such preparations would require more staff than is available. A more important reason is that such an outward show of organization would destroy the note of informality and local sponsorship that the association thinks is essential to success.

The forums are set up through an important local citizen, often a newspaper editor. He usually is able to get the local chamber of commerce, or municipal council, as a sponsor.

He sees to it that a hall is rented, and that a women's group is ready to supply the coffee and doughnuts. And he often takes on the job of seeing that word of the meeting is spread through the area. This is done by store window posters, newspaper articles and advertisements.

In some areas, the initial contact with editors is made by an association field man. But in other areas, in Saskatchewan for example, it has been found that long-distance telephone is just as effective and far cheaper.

Are the forums here to stay? CPA thinks so. Its view: "Good will is something that must be built at a constant pace. You can't wait until some segment of the public becomes disgruntled. The problems will keep coming."

The association has put these thoughts into a slogan: "Public relations begin before misunderstandings start."

What's New

IN PUBLIC RELATIONS

Indiana Standard is seeing that its employees are better informed about the company by giving them facts to carry around in their pockets. Each of Standard's 28,600 employees is getting a 48-page, 3x5-in. booklet that digests data on the company's operations, products, finances, benefits, and history.

Behind the booklet is the management realization that employees are one of the most important factors in influencing public opinion. The booklet has quick answers to many questions an employee might be asked by outsiders. At a glance, for example, the employee can tell who manages key units of the company, how the company is organized, where it operates, and how income is spent.

The booklet also has a cut-out questionnaire page, which asks employees for their reactions and suggestions for improving the data. The booklet is not for public distribution.

•

Outside agencies are used for some public relations work by 13 of 23 big oil companies surveyed by Petroleum Week. In most cases the agencies handle special projects, rather than daily public-relations activities. Samples: opinion surveys, institutional advertisements, and exhibits. The agencies also provide counseling and supplementary manpower.

Typical comment from one of the majors working with a publicity agency: "We maintain a fairly limited public relations staff. We use outside help if we want advice, or if a job comes up that's too big for us to take on alone. We think this is the most economical, as well as the most efficient, way to operate."

•

The danger in public ill will extends well beyond the threat to free competition, warns The Texas Co.'s James H. Pipkin. A company's sales are also at stake.

In a Chicago speech last week, Texaco's general manager of industrial and public relations said that a company must necessarily "be competitive, productwise." But he stressed that "it must be known as a company with character."

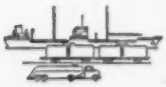
He added, "In most cases, a company of poor repute will lose out to one of good standing, whether its products are equal to, or even better than, those of its competitor."

How Standard invested its money last year to meet your growing oil needs

New Refinery Units to make higher octane gasoline took a big part of the $30 million we spent for plant improvement.

Petrochemicals for plastics and other new products; fertilizers and sprays for bigger crops, took a $20 million investment.

Research and technical services cost nearly $13 million. One result was a technique which promises to greatly increase yields from oil wells, helping conserve U.S. resources.



Transportation Facilities to bring our products from oil field to you were a $10 million item.

New and Modernized Service Stations from Alaska to Mexico cost $16 million, made Standard products more convenient for you.

Exploration for new oil sources cost $134 million. Standard Oil Company of California produced oil and gas from more than 8600 wells in the U.S., Canada and South America to supply your petroleum needs.

production-exploration *refineries* *asphalt refineries* *Standard marketing area*

STANDARD IMPROVED its ability to serve you last year by investing $347 million for new production and distribution facilities and exploration. The rest of our $1⅓ billion income was spent on such items as wages and benefits for our 36,369 employees, supplies from more than 10,000 U.S. firms and crude oil from independent producers. We paid a $107 million tax bill, and our 119,793 stockholders received 7¢ of each dollar we took in as a return on their investment in the Company.

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1956 1965

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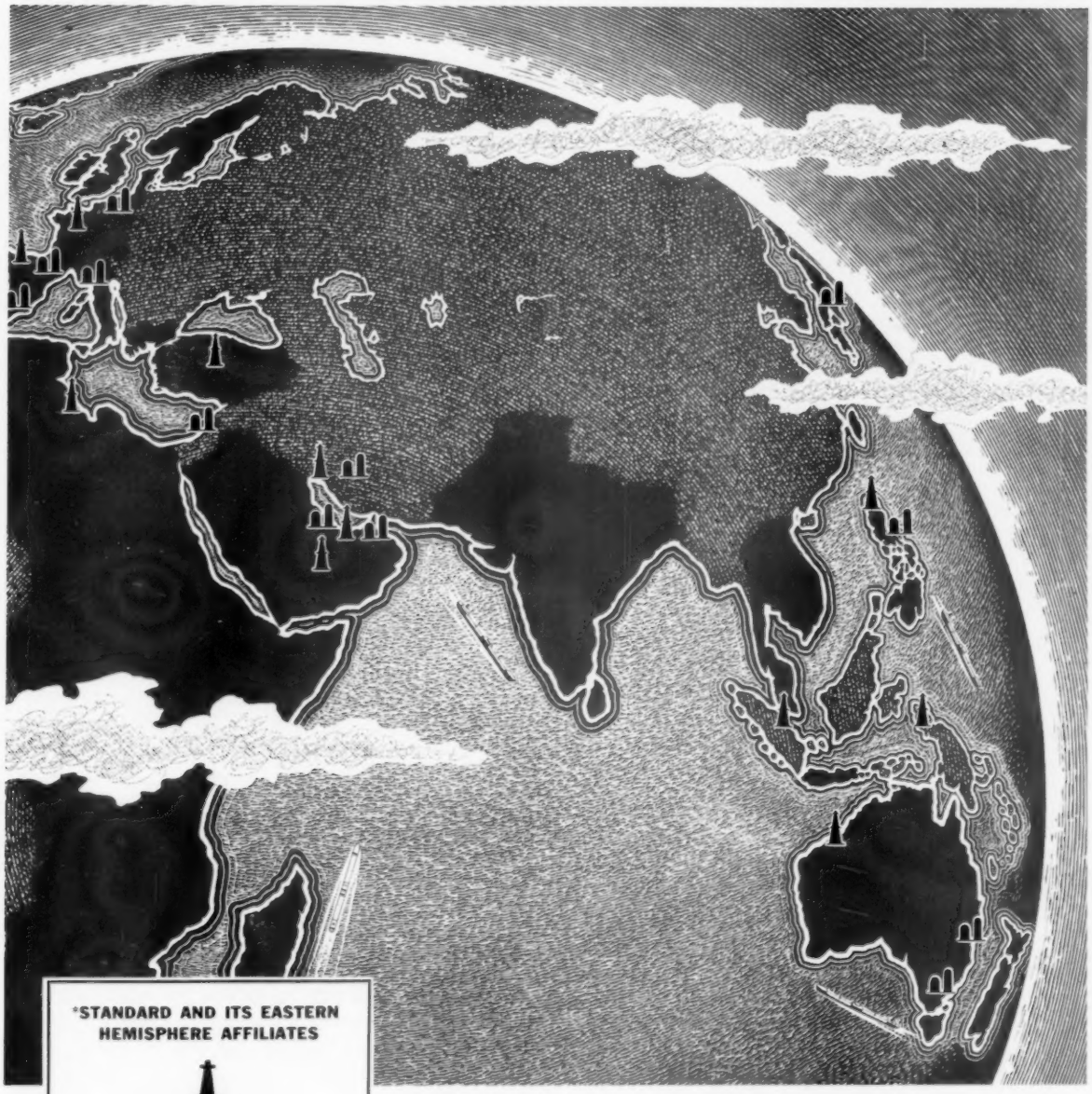

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Marketing Research Improves the Odds

New API studies offer more data on consumer buying habits and advise dealers and suppliers on how to make the most of them.

Suppliers, jobbers, and dealers alike are taking a good look at some new marketing research studies designed to improve their chances of succeeding in the petroleum marketing business.

The new studies have been compiled by the marketing research committee of the American Petroleum Institute's marketing division. The committee serves as a clearing house for practical ideas for improving efficiency in all phases of oil marketing.

It presented its latest findings at the recent Atlanta meeting of the API marketing division. Four committee members—W. S. Penn, Jr., Union Oil Co. of California; A. E. Comstock, Standard Oil Co. (Ind.); W. R. Lund, Warren Petroleum Corp.; and N. L. Turkevich, Continental Oil Co.—made up a panel on "The Dealer and Marketing Research." What they had to say is interesting not only to the dealers to whom it was directly addressed, but people in all segments of petroleum marketing.

The new studies deal primarily with the habits and opinions of service station customers. Information in these surveys is designed to acquaint marketers better, up and down the line, with how much petroleum products their customers buy, where, and why.

Why does a motorist pick his regular station? One of the new studies says it's mostly because he gets fast and friendly service there.

Many customers were interviewed right at the pump island to get the answer to this one. A typical customer comment on his regular station went like this: "They greet you friendly, they get the gas into the car, and they give the windows a slight going over. Then they give you your change and get you on your way. They don't hold you up."

Price considerations were mentioned in a few of the interviews, but most customers cited better service as the main reason for patronizing a station on a regular basis.

Other new studies report that:

• **Almost 70% of all cars are brought to service stations for oil changes and lubrication. But as cars get older, their owners tend to have them serviced elsewhere.** This study says that many older cars are taken to independent garages and some are serviced at home. So the dealer who can work out means to combat these trends, the survey says, will increase his lubrication income.

• **Although intervals between oil changes and lube jobs are substantially the same, only 50% of car owners have both jobs done at one time.** This is an indication, researchers point out, that either a motor oil change or a lube job may be lost with some frequency among 50% of car owners. The study says that better selling by station operators would convince many more motorists to have both jobs done at once.

• **Urban families spend an average of $325 a year to operate their cars. About 60% of this goes for service station items,** including 50% for gasoline, oil, and lubes, and 10% for tires, batteries, and accessories. The other 40% of the $325 is spent on insurance and miscellaneous items.

Marketing research also suggests how dealers and suppliers can capitalize on these consumer habits. F instance, a systemized choice of stution sites can mean more business for both.

In a market where population is shifting, analysis of growth patterns often indicates general areas suitable for station sites. Marketing researchers say that the potential of any of the general areas can be computed by using what they call a "Magic Circle" formula. This is simply an imaginary circle two miles in diameter, drawn with the station site as its focus. Researchers say that the area within this circle—called the primary trading area—will contain about 90% of the station's service customers, and 52% of its gasoline customers.

This kind of study can also be used after the station is built. For the dealer, it provides a simple but effective means to guide his direct mail and personal solicitation campaigns. By mapping regular customers' home addresses, the dealer can tell at glance what part of the "Magic Circle" can stand developing.

Do-it-yourself marketing research is recommended for dealers for developing a hard core of regular customers.

Marketing researchers say that nearly 70% of a typical residential-area station's gross profit comes from its regular customers. The "regulars" not only buy more, say researchers but they are also more profitable customers. They buy more premium-grade gasoline, more motor oil, and more accessories, and have their cars serviced more often than do non-regular customers.

So API's marketing research committee has come up with a way for dealers to promote regular-customer trade. Here's the way the plan would work:

A dealer would ask each customer to fill out a small data card; in return the card would represent the customer in a drawing for some small prize—an appliance, perhaps. The cards would enable the dealer to chart his customers on a map of his business area, giving him a better idea of his primary trading area. According to members of the committee, the program is "low cost, demands little time, and can develop valuable data for any dealer interested in improving his sales."

Majors Move In Price-War Areas

Major suppliers made new moves this week to calm traditionally troubled markets. The new actions are the latest in a series of steps taken by major oil companies to improve relations with dealers and jobbers (PW—Jun.1 '56,p30).

Standard Oil Co. (Ind.) made a bid to aid its dealers in the Kansas City area—a perennial price-war region—by introducing its "suggested competitive resale price system" there.

Standard's suggested price system for dealers is essentially the same as a plan introduced by Atlantic Refining Co. late last year (PW—Dec.16'56, p31). The companies feel that their dealers need help in planning their business. So the suppliers, with their knowledge of varying marketing and transportation costs, and familiarity with over-all competitive prices, feel that they can help dealers by suggesting retail prices. But they insist that they are only suggesting; dealers are not obliged to follow the advice. Standard says "what each dealer as an

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But that's not all. On the basis of cash earnings, the real index of oil company growth, these 10 issues are cheap. One is selling for as low as a 4-to-1 price-to-cash-earnings ratio. Thus, when you find an oil company that combines huge per-share reserves with a generous cash flow in relation to price, you usually have a "double-barreled", money-making combination – a combination that more and more investors are seeking and which, we believe, means much higher market prices for these favored stocks.

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independent businessman chooses to do is a matter of individual decision."

Indiana Standard has been using this plan in other troubled marketing areas for some time. It put the plan into effect in the Minneapolis-St. Paul area when price disturbances were rocking that area at the beginning of this year. Standard's suggested resale prices for the Kansas City area are 13.9¢ for regular and 15.9¢ for premium (ex state and federal taxes—6¢ in Missouri, 7¢ in Kansas).

"The purpose of Standard's suggested retail prices will be to enable dealers throughout the area to be competitive under all circumstances, taking into account such factors as variations in local taxes and prices posted by competing dealers, and rebates of any kind . . ." That's how Dwight Benton, Standard's marketing vice-president, explains the move.

"The policy of suggested competitive resale prices appears to be working well in the Twin Cities area which in the past has also experienced extended and costly gasoline price wars," Benton points out. "The public has reacted well to our plan there, and it has met with the wholehearted support of our dealers, and we anticipate that it will be welcomed, too, by our dealers in the Kansas City area."

Furthermore, Standard is offering its Kansas City dealers a voluntary allowance. The discount is necessary, Benton says, because this area "has been subject to severe and continuing price disturbances." Benton also says that, "Discounts below the suggested competitive resale price, which Standard will give all its dealers, will fluctuate from time to time. The dealer's discount will be narrowed at times when prices are depressed, and it will be increased as prices are restored."

All's quiet on the New Jersey price-war front. And California Oil Co. and Tidewater Oil Co. have moved to keep it that way.

Calso is taking legal action against a second Jersey dealer for selling below the fair trade price. Although a Middlesex (N. J.) court refused to grant a temporary restraining order against the dealer, it did order the station operators to show cause why they should not be restrained from selling below fair trade levels. Calso's application for an injunction is scheduled for hearing today.

Last week Tidewater became the eighth major oil company to fair-trade its gasoline in New Jersey. Tidewater's action means that all majors who market in the state now have either fair trade or similar agreements with their dealers.

What's New / IN MARKETING

New Chapter for Warren, FTC

Here's the latest chapter in the off-again, on-again Warren Petroleum Corp.-Federal Trade Commission restraint-of-trade case: Warren has issued a new brief denying the charges and will offer oral arguments beginning next week.

The case appeared to be closed last winter (PW—Feb.17'56,p31) when an FTC preliminary examiner recommended that the charges be dropped. But in April, the FTC staff asked the commission to reverse the examiner's ruling.

Warren's latest response claims that the company was not responsible for the actions of two subsidiaries in an LPG price war at Lake Village, Ark., during 1952 and 1953.

Warren also contends that price-cutting practices of one of the subsidiaries—Zero LP-Gas Co.—were carried out only to meet competition. FTC, however, charges that Warren used the companies to control LPG prices in the Lake Village area.

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1966 Product Demand

By 1966, demand for petroleum products will be up 47% over current demand. Gasoline sales will rise 40%, and motor oil sales 14%. And dollar volume per service station may jump as much as 50%. That's what the just-published 1956 National Petroleum News Factbook predicts for the future of oil marketing.

A rapidly growing passenger car population is expected to provide the stimulus for most of the increased demand. By 1966, there will probably be about 34% more cars on the road than today—hence the jump in gasoline and motor oil demand.

NPN's Factbook says that there will be fewer stations to serve the 1966 passenger car clientele. It figures that the downward trend in the number of U. S. service stations (PW—Feb. 10'56,p32) will continue for at least the next ten years.

According to NPN, service stations should shrink from 181,000 in 1955 to 177,000 in 1966. The ratio of cars to service stations in 1966 will be about 385 to 1 as compared with 280 to 1 last year. For the individual station, this will mean larger layouts, more equipment and personnel—and more business and profits.

Aside from the demands of passenger-car consumption, substantial gains are also anticipated for kerosine (20.5%), distillates (45.9%), residual (21%), and LP-Gas (79%). But the sharpest demand increase is expected for jet fuels, petrochemicals, asphalts, and road oils, which, taken together, should jump about 84%.

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Swiss Price War

The price-war bug appears to have left New Jersey for more picturesque Switzerland. Swiss Migrol Cooperative, a major gasoline marketer, recently touched off a price war in Zurich by lowering its price 2¢ a litre. Another major, Swiss Motor Industry Union, has followed suit, and in some cases is even underselling Migrol. Independent-brand stations, which account for about 20% of retail sales, appear to be caught in the middle.

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Demand for middle distillates has been growing faster than even the demand for gasoline, and it is expected to keep right on rising, according to Wiley Butler, president of Coastal Oil Co. Butler points out that from 1946 to 1955 distillate demand grew by about 110%. Gasoline demand rose only 80% over the same period.

"It's probably safe to say that another half-million or more oil burners will be installed this year and for all predictable years to come," Butler contends. "I for one do not fear that gas heating is going to reduce the demand for heating oils . . . Oil heating has many friends because it is so beneficial to all concerned."

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Purchase of Pate Oil Co. by Standard Oil Co. (N. J.) (PW—Jun.1'56, p9) is being looked into by the Senate Small Business Committee. The committee wants to know whether advent of another major in the Midwest might lead to "overcompetition." On the other hand, the committee also questions whether acquisition of an independent by an integrated company really fosters competition.

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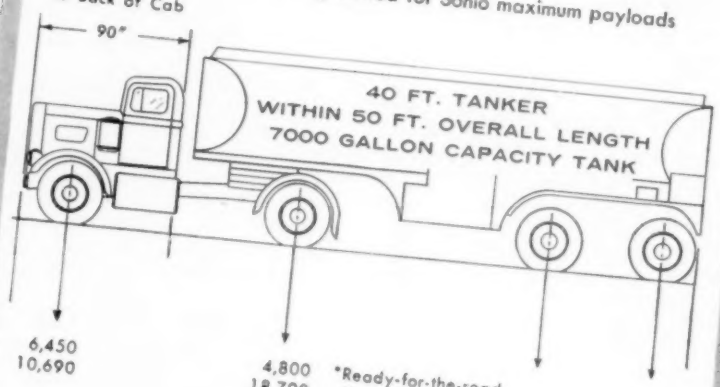

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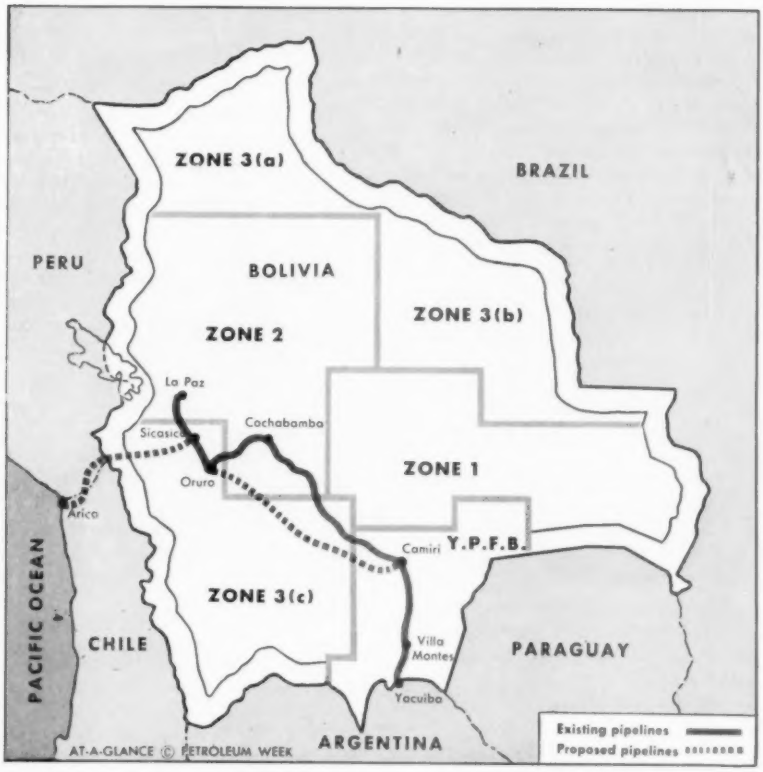

BOLIVIA wants U. S. oil capital to develop new oil areas, build new pipelines, so . . .

Bolivia Votes on Oil

This week Bolivians go to the polls for their first election in five years. The reason: oil. The event marks a significant development in the investment climate of this South American country.

Four years ago, Bolivia's 179th revolution produced a new government.

It was nationalistic: It nationalized the country's famous tin mines.

It was leftist: It stirred fears in the U. S. that Bolivia could give a new toe-hold to Communists in South America.

But though it was risky, Washington backed the new revolutionary government of president Victor Paz Estenssoro and his Movimiento Nacionalista Revolucionario party. A total of about $56-million in U. S. loans and grants in the past few years ($20-million of this in the last half of 1955) has helped keep the country fed, the new government in power.

Now a government friendly to the U. S., it also stands staunchly anti-Communist.

Bolivia's voters will elect a new president on June 17, and a new congress. They have had no legislature in recent years; the previous one was abolished before Paz Estenssoro came to power. A primary reason for the election, as a matter of fact, is to set up a congress so that it can take action on the government's oil moves.

Dangling on the outcome of the June 17 elections is what Bolivians hope will be a new oil era—with a potentially significant role for U. S. oil capital and private enterprise.

The new congress already has its first order of business outlined. When it convenes in August it will be asked to ratify (1) a new petroleum code that opens up much of the country to foreign oil companies (PW—Nov.18 '55,p26); (2) a specific development agreement between the government oil company and Gulf Oil Corp. (PW—Mar.30'56,p37).

Approval of these documents would set out the official welcome mat for U. S. oil capital. It was almost 20 years ago, in 1937, that another government nationalized the oil industry. It confiscated Jersey Standard holdings, drove out all foreign oil companies, and set up Yacimientos Petroliferos Fiscales Bolivianos as an oil monopoly. When the present government took over, Bolivia was an oil importer. By last year YPFB had chalked up a successful record: Bolivia had become a net exporter of oil. But it's all on a small scale: About 2/3 of YPFB's 12,000 b/d production is exported to Bolivia's neighbors. The government wants to boost oil development sharply, to increase its foreign exchange earnings. So it signed the new oil code last year.

A half-dozen foreign oil companies have taken a wary look at the concession prospects in this underdeveloped country that has had the nationalization itch in times past. Among these are Socony, Richfield, Shell, a Jersey Standard affiliate, Standard of California—and even Teikoku Oil, a Japanese producer that has never gone abroad but might like to team up with a foreign partner with capital.

But most will not make a move until the new oil code gets a legislative stamp of approval. Gulf so far is the only one that has banked on the law's being approved. It has already put in applications for ten concessions totaling 3.9-million acres in Zones 1 and 2 (PW—Apr.27'56,p28). These are in addition to acreage involved in its development agreement in the YPFB zone.

Glenn McCarthy also holds a concession in that zone under a contract concluded before the new oil law was drafted.

The government is particularly eager to get approval of the agreement with Gulf, because it will give landlocked Bolivia an outlet to world markets for the new oil production it hopes to develop. Under this agreement, Gulf will finance half the cost of the government's long-projected pipeline from the YPFB zone to Chile's coast.

The terms of the Gulf agreement are included in two new contracts just signed with YPFB officials, following approval of the texts by the Executive Power.

The operating company will be Bolivian Gulf Oil Co., a new subsidiary 80% owned by Gulf. The other 20% is held jointly by Williams Brothers, Falcon Seaboard Drilling Co., and Barry & Reiner, Inc.

Details released in La Paz last week specified that the contracts, one for

"...the Bolivians are counting on oil to put them on the road to economic progress..."

Bolivia starts on p. 33

development, the other for pipelines, would become effective when: (a) congress approves the new petroleum law; (b) congress approves the Supreme Decree authorizing Gulf's development contract, its partial financing of the Sicasica-Arica pipeline, and its option to finance the Camiri-Sicasica pipeline; and (c) Bolivia completes its agreements with Chile.

Gulf's first contract spells out development rights in the YPFB zone, as follows:

- Gulf gets exclusive exploration rights over 3.7-million acres, excluding areas where YPFB is operating.
- Exploration will start within six months of the effective date of the contract (the date when approved by congress).
- Gulf will invest a minimum of 80¢ per 2.47 acres annually.
- Within four years, Gulf will select a maximum of 1.1-million acres for 40-year development rights. This may be selected in four separate areas. The first area must be selected within three years of contract date.
- Gulf has exclusive rights to exploit, store, and transport the oil, according to the petroleum code regulations. It also has refining rights.
- Drilling must start within the first five years after the development areas are selected, with minimum annual footage of 16,400 ft. for each 247,100 acres. In the next six years, a minimum of 32,800 ft. must be drilled annually for each 49,420 acres.
- Under a cancellation clause, Gulf can rescind the contract at any time with 90-day advance notification.
- Gulf will pay 11% royalty on crude or gas production, to be delivered in kind at the well, and a 19% exploitation tax. There are no other payments.

The second Gulf contract covers pipeline financing and options. It specifies:

- Gulf will give YPFB an initial credit of $5-million to begin construction of the $10.5-million Sicasica-Arica pipeline.
- YPFB will pay off the Gulf loan within eight years. Gulf is to place orders for the pipe within 60 days of the contract signing, and YPFB assumes credit obligations.
- A pipeline from Camiri to Sicasica may be built, with capacity of 50,000 b/d, at an estimated $35-million cost. Gulf will have an option for the total financing, which would be amortized in 12 years. This line, it is estimated, would not be economically feasible until YPFB and Gulf, either jointly or singly, develop 20,000 b/d production in addition to reserves of 200-million bbl.
- Gulf will have preference for transport of its own oil production to the Pacific in the Camiri-Sicasica line if YPFB has sufficient pumping capacity.
- If Gulf achieves major production, it is authorized to build a second pipeline to the Pacific. This would be owned by Gulf and follow the same route as YPFB's line. In this event, the Bolivian government will take charge of pertinent negotiations.
- Gulf and YPFB will study the possibility of building a pipeline to the Atlantic also, if and when this is justified by both production and reserves.

The Bolivians are counting heavily on oil—and the Gulf agreement—to put them on the road to economic progress.

The government needs this boost in its foreign-exchange income, particularly since its tin earnings have dropped off.

Agricultural production too has had some drop. Inflation has soared, with no end in sight.

To capitalize on oil and mineral resources, the government hopes to prove in the elections that there's real political and economic stability ahead to attract foreign capital and technicians. Without such proof, President Paz Estenssoro and other MNR officials publicly acknowledge they won't be able to get the help they need to put Bolivia on its feet economically.

The government's oil-development plans, therefore, may hang on whether it gets the support of a real majority of the people. The president, an economist and college professor, has made a vigorous drive to bring Indians (about 90% of the 3½-million population) into Bolivia's economic and social life for the first time. The MNR party goes all out to show itself the representative of the people.

But most of the Indians are illiterate, and in past elections scarcely more than half of the 150,000 eligible voters went to the polls.

This time, however, voting is compulsory, and a color indentification system has been set up so that anyone can cast a ballot.

Although MNR is confident of a majority, there's plenty of sniping at the government from minority extremes on both the right and the left, including Communists. These parties have been showing signs of whooping up a storm to show that the elections are rigged.

One thing that tends to convince most foreigners in La Paz that the president and his party really do have majority support is that the people are armed—for the first time in Bolivia's history. Until MNR took over, it was the army that had the guns. But when MNR came to power in April, 1952, it virtually abolished the army and organized a militia largely composed of armed workers.

The armed population, which includes some 60,000 organized miners, is believed fair game for the minority parties overshadowed by MNR. All of these have some support, however small.

But in general, the odds last week appeared to be that the president's party would pull through. If so there will be a new president—Silas Zuazo, present vice-president and close follower of Paz Estenssoro—to carry through with oil development plans.

BP Adds New Market

British Petroleum expects that its marketing operations in Africa—such as those in Nigeria (above)—will represent a steadily growing share of its total sales, which hit a record high last year. BP bought its marketing interests in West Africa from Atlantic Refining about a year ago.

IN BOTH GREAT

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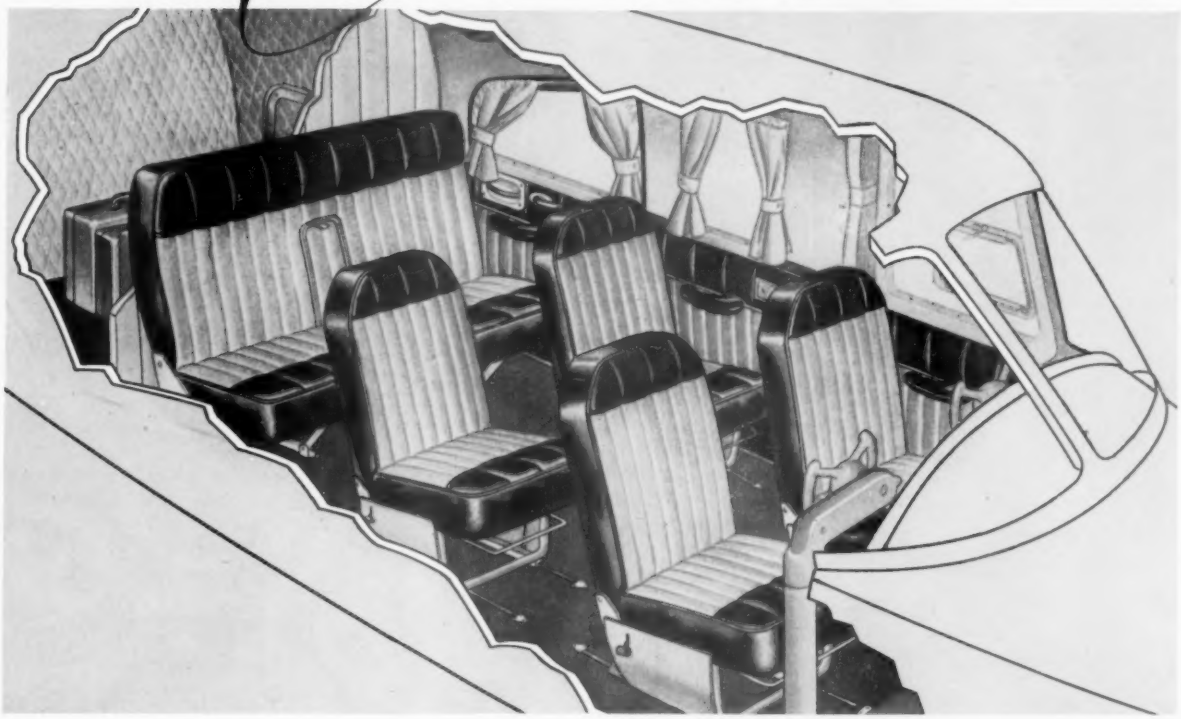

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OEEC Sees Big Role for Oil

Western Europe is in for a sharp boost in imports of oil and coal over the next 20 years. Nuclear energy will fill only 8% of energy demand in 1975, according to the Organization for European Economic Cooperation.

In a 120-page study titled "Europe's Growing Energy Needs—How Can They Be Met?," the 17-nation OEEC emphasizes that coal must remain the mainstay of Western Europe's energy economy for many years to come.

But oil imports, it notes, will be needed in increasing quantities to bridge the quickly widening gap between rising demand and insufficient local production.

In 1955 the OEEC nations imported 20% of their primary energy needs, which totaled 730-million tons of coal equivalent. These imports—coal, crude oil, and petroleum products—cost $1.9-billion.

By 1960 Europe's energy needs will most likely rise 15% above 1955, in line with the 1948-55 trend, to a total between 820-million and 860-million tons of coal equivalent.

By 1975, a 65% increase over 1955 would put demand between a minimum of 1.1-billion and a maximum of 1.3-billion tons of coal equivalent.

Of this demand, 37% will have to be filled by oil and coal imports, OEEC says. That will cost about $5-billion at present prices—which are certain to rise, the report states.

"It is a mistake to assume that atomic energy on a large scale is just around the corner," OEEC says.

The "popular misconception that nuclear energy will make large contributions in the near future is seriously prejudicing the immediate need for development in coal and other energy industries," OEEC reports.

The major objective of the new study is to point up the urgent need for increased local output of energy supplies by member countries to narrow the energy gap. "The rapid increase in Western Europe's dependence on imported energy, with its inherent risks and the certainty of increasing prices" points to the need to develop all forms of energy, for both economic and security considerations, the group reports.

On the basis of present growth rates, OEEC anticipates a 30% increase by 1975 in Western Europe's output of coal, lignite, hydropower, crude oil, and natural gas. Production of these totaled 584-million tons of coal equivalent in 1955; it would rise to 755-million tons in 1975.

The bulk of this would be coal, which would increase to 520-million tons in 1975. Hydropower would contribute 130-million tons of coal equivalent in that year. Oil and gas output, which would quadruple, would hit 70-million tons of coal equivalent, and lignite would supply 35-million tons.

The OEEC report calls for a "new outlook on coal," strongly recommending increased investment in the coal industry.

The study deplores a "growing tendency to regard coal as a static or even a dwindling industry." This is due partly, it says, to a widespread—and erroneous—belief that nuclear energy will soon take its place.

Oil imports should be able to fill Western Europe's energy gap over the next 20 years—provided nothing is done "to prevent the integration of the supply of oil products to Western Europe as part of the international oil industry."

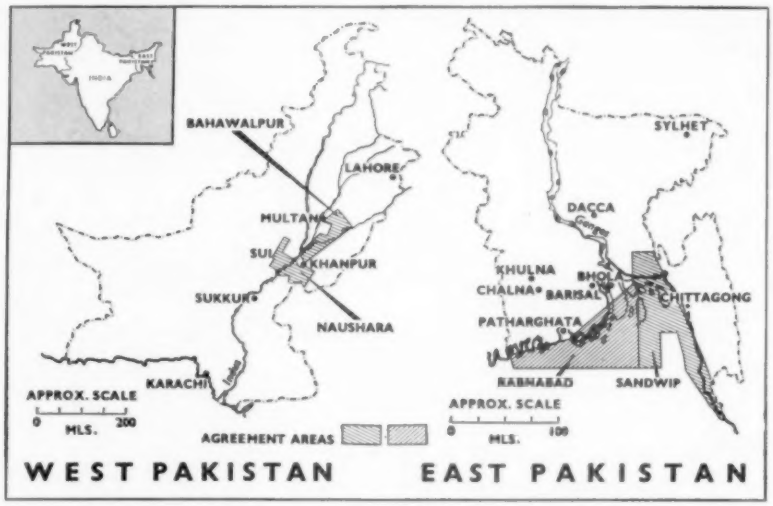
The increased oil supply will entail very heavy capital investment by the oil companies, providing there are no restrictions—such as price ceilings—that might prevent oil companies from maintaining an adequate earnings level. The oil industry would be able to provide the investment necessary to meet Europe's rising energy demand, the reports notes.

Oil companies will invest an estimated $10-billion in developing Western Europe's crude oil and natural gas in the 1955-75 period. This forecast, based on 1954 prices, represents about one-fourth of the total estimated investment for development of all primary energy sources.

Crude imports from the Western Hemisphere are likely to continue, OEEC says. The pattern of oil consumption in Europe is changing, and will continue to change if more and more oil is used to replace coal. In 1938, the proportion of fuel oil, distillates, and kerosine was 47%. In 1954, this had risen to 62%-63%. This explains the need for Western Hemisphere crudes, which yield more fuel oil than does much of the Middle East crude.

"We think that competition must be allowed to play its full role in giving the consumer the maximum choice between energy sources," OEEC says.

Legislative or administrative restrictions likely to hamper development of energy sources should be avoided, it adds.



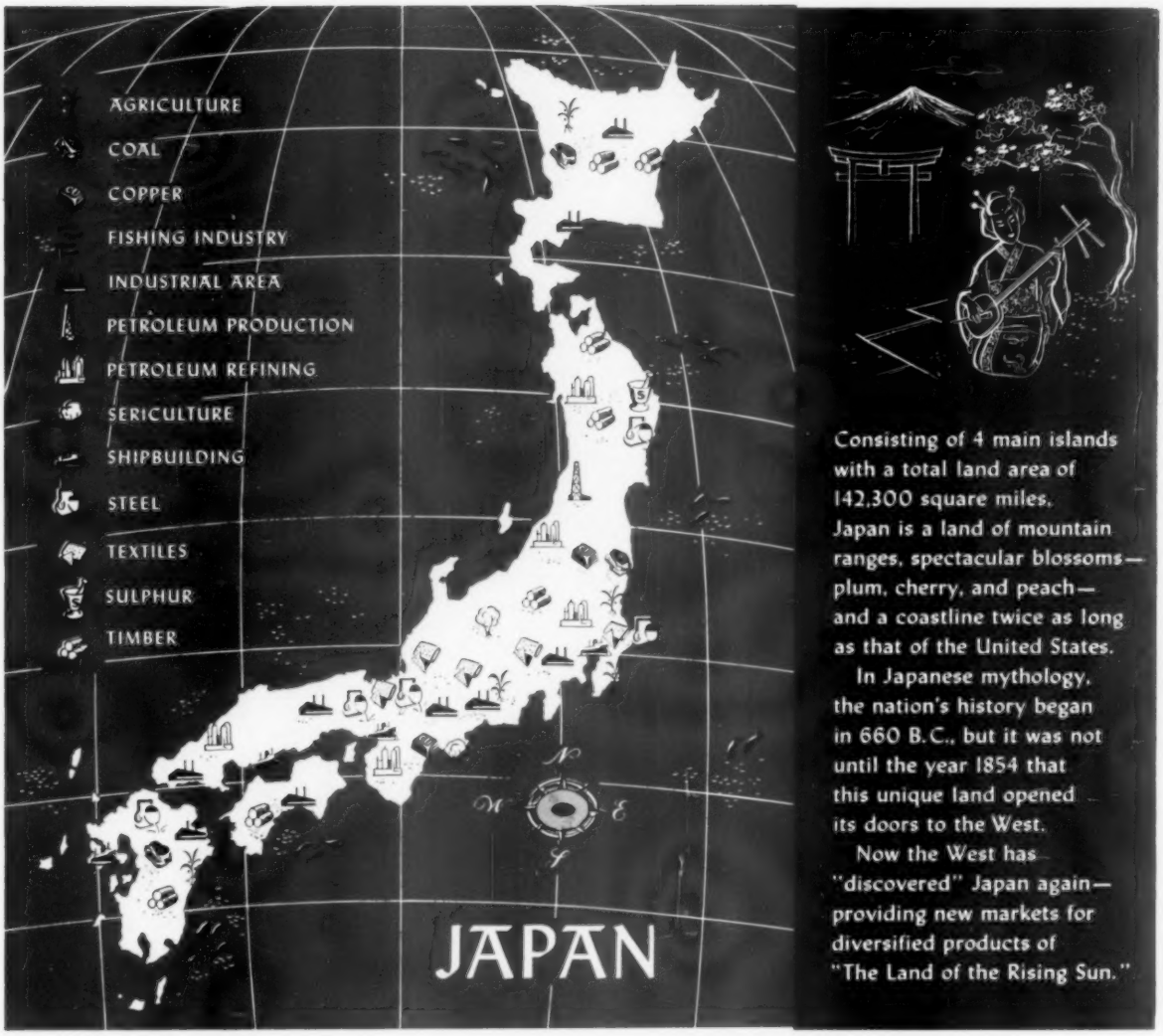
Shell Plans for New Pakistan Search

Shell plans to start exploration in Pakistan this fall simultaneously in both parts of its new concession grants, totaling 20,000 sq. mi. (map).

The half in East Pakistan is largely offshore in the Bay of Bengal. A detailed gravity survey will start this fall, and marine seismic work a year later.

In West Pakistan, two surface geological crews and a seismic party will start work this fall. A core-drilling unit is scheduled for the second half of 1957.

The operating company is Shell Co. of Pakistan, Ltd., 25% of which is held by private Pakistan capital.



Consisting of 4 main islands with a total land area of 142,300 square miles, Japan is a land of mountain ranges, spectacular blossoms—plum, cherry, and peach—and a coastline twice as long as that of the United States.

In Japanese mythology, the nation's history began in 660 B.C., but it was not until the year 1854 that this unique land opened its doors to the West.

Now the West has "discovered" Japan again—providing new markets for diversified products of "The Land of the Rising Sun."

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What's New / AROUND THE WORLD

Independents to Bid

VENEZUELA—Several U. S. independents, with four Canadians and three Europeans, will participate in a new Venezuelan company that says it plans to invest up to $400-million in oil operations. One-third of this for oil concessions.

The company is Venezuelan Leaseholds S. A., a new subsidiary of Venezuelan Leaseholds, Inc., of Nassau.

Three of the U. S. firms were identified in Caracas last week as Boger Oil Co., of Louisiana, Star Falcon Oil Co., and Dade Petroleum Corp.

A. E. Boger, president of Boger Oil, and George Martin, president of Dade, have arrived in Caracas to help prepare bids for oil concessions. Thus far, the Canadian and European independents have not been identified.

The new company has been set up by a group of prominent Venezuelan businessmen and investors. It is headed by Enrique J. Brandt, who is also an officer of the parent company in Nassau. Initial capital is $450,000, and shares will be marketed in Caracas, New York, Amsterdam, and Montreal.

Brandt says the company also plans to build a refinery or petrochemical plant in Venezuela. Meanwhile, still another company has been formed by local investors, it was revealed. This one, Inversiones Venezolanas S. A., also will include U. S. independents.

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Texaco Bid Stirs Protest

UNITED KINGDOM—The Texas Co. has run into a storm of protest over its $176-million bid to buy a British oil company with interests in Trinidad, Britain, and Canada.

Trinidad Oil Co., Ltd., announced the offer last week, "subject to certain conditions" still under discussion. Both Labor and Conservative members of Britain's Parliament are raising vigorous criticism of the proposed transfer of British oil holdings into foreign hands. The offer is now under study by the government, and it appears it will have to be approved by both the British Treasury and the government of Trinidad.

Texaco is already indirectly associated with Trinidad Oil in some of its operations, through Caltex, which is 50 percent owned by Texaco.

In Trinidad, the British company (until recently called Trinidad Leaseholds) produces about 6½-million bbl. of crude a year from holdings of some 138,000 acres. It owns a refinery there which processes some South American crudes for Texaco and others as well as Trinidad output.

In Britain, Trinidad Oil and Caltex jointly own Regent Oil Co., a marketing firm which is planning to build a 40,000 b/d refinery—to be financed by Caltex (PW—May18'56,p24).

In Canada, Trinidad Oil's subsidiary has marketing and refining facilities in the east (its refinery is near Toronto), and has been expanding its exploration holdings in the west.

Simon Vos, chairman of Trinidad Oil, said Texaco had offered 80s-3d ($11.23) per share for all outstanding stock. Though he strongly urged stockholders to hang onto their holdings, the announcement was followed by a spectacular jump in the stock's selling price, from $5.81 to $10.15.

Vos said in London that he expects a decision on the Texaco offer might be reached in three to four weeks. In New York, meanwhile, Texaco would confirm only that it is negotiating for purchase of the company.

•

Next Congress in New York

The Fifth World Petroleum Congress will be held in New York City's Coliseum. The date: May 30-June 6, 1959.

General Secretary of the congress will be C. Eugene Davis, recently retired vice-president of Shell Oil Co. The temporary offices for the congress are at 15 West 51st St., New York City.

•

New Firm Set for Export

JAPAN—A new Japanese export company has been set up which plans to import 50,000 tons of crude in the next six months to produce products for southeast Asian markets. The firm is Japan Oil Export Co., a wholly Japanese-owned oil refining concern that has been spearheading Japanese refiners' plans to move into the export market (PW—Apr. 20'56,p28).

Taro Yamashita, president of the new company (and also president of Nissan Steamship Co.) said in Tokyo last week that interested Japanese oil concerns were invited to participate in the new export firm. The authorized capital is $8.3-million, and its invested capital at present is $2.8-million.

Currently, several Japanese oil trading companies have sent their own representatives to southeast Asia to investigate possible markets. Tokyo sources consider the most promising markets for Japanese product exports to be Formosa, Okinawa Hongkong, the Philippines, Thailand, and Okinawa.

•

Stanolind Starts Test

JAMAICA—Jamaican Stanolind Oil Co. has spudded in its first wildcat on its 5½-million acre exploration concession (PW—Feb.24'56,p32).

Last week Santa Cruz 1 was drilling in limestone below 70 ft. on Santa Cruz Mountain, 2,650 ft. above sea level. The test, to be carried to 6,000 ft., is 5 mi. south of Malvern and 1 mi. east of Monro College in St. Elizabeth Parish. It is 45 mi. southeast of Jamaica's first wildcat, a dry hole drilled a year ago by Base Metals Mining Corp. of Toronto, from whom Stanolind acquired its acreage.

Santa Cruz 1 is located in a structure first identified from aerial photos. Surface geological crews confirmed the presence of a large feature in the area, its general size, and amount of structural closure. Later seismic tests were made to prove out some critical dips. The well is part of Stanolind's $2-million exploratory program for the acreage.

•

GUATEMALA—Husky Oil Co. has appeared on the roster of applicants for oil concessions under the new oil law. It was revealed in Guatemala City last week that Jaime Allan Willard Duran, one of the applicants ruled eligible (PW—Jun.8'56,p34), has filed the concession bids on behalf of the U. S. independent.

•

BRAZIL—Seismograph Service Corp. has set up a new subsidiary in Rio to operate seismic crews under contract to Petrobras, president G. H. Westby announced last week.

Acting manager of the new Servicos Sismograficos do Brasil Ltda. is Forrest B. Leedy, of Tulsa, vice-president of SSC (international). The company also has subsidiaries in Mexico, Venezuela, Colombia, and Canada.

Brazil's government recently announced it was hiring more foreign technicians to step up its oil exploration program (PW—Jun.8'56,p34).

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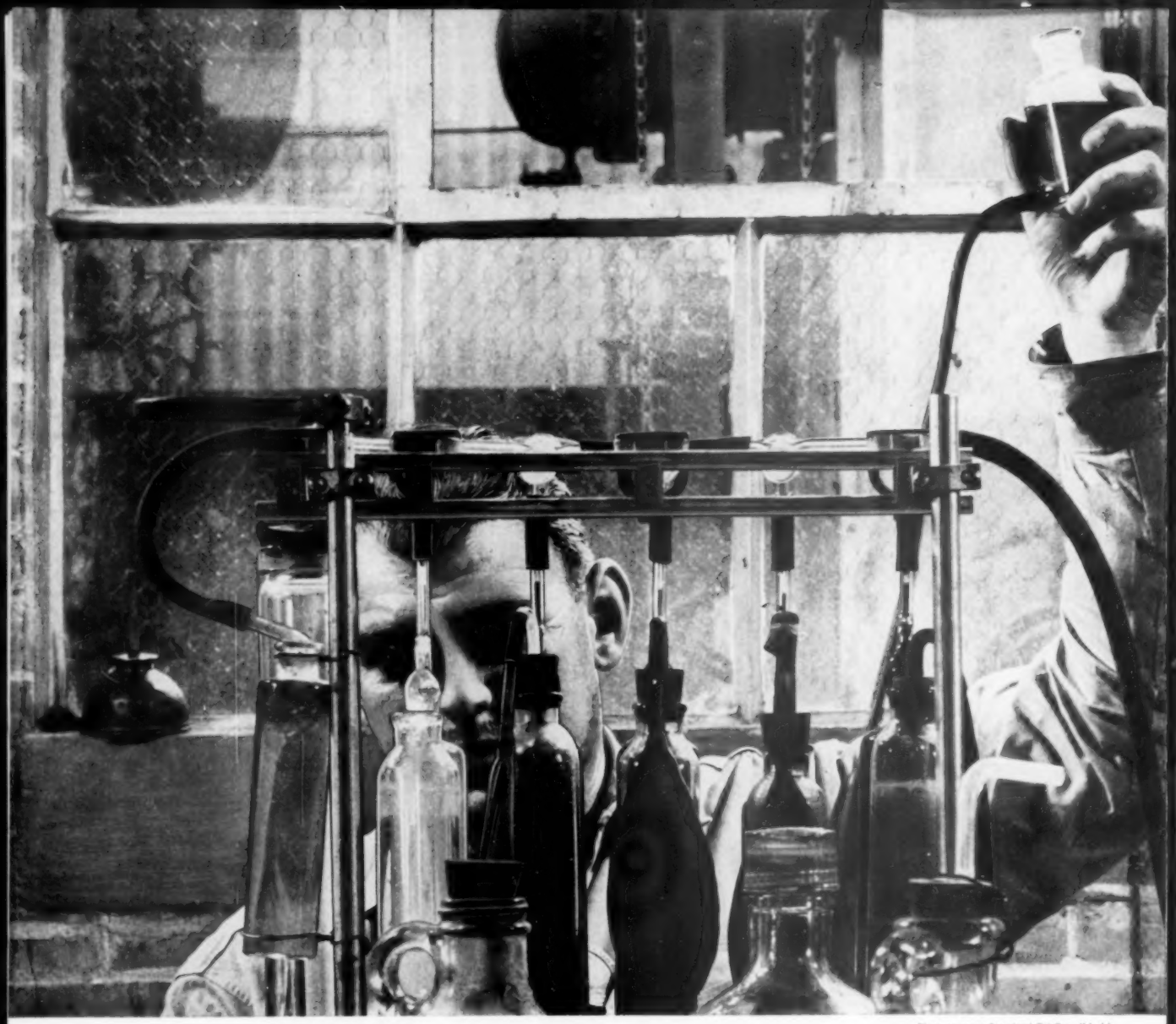

Photo courtesy Standard Oil Co., (N. J.)

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DEPT/Refining

More Refinery Gases for Plastics

A new polymerizing technique could boost nonfuel uses of the higher olefins.

A greater number of refinery gases may become raw materials for plastics and synthetic fibers as the result of a new process technique for polymerizing olefins.

This development is of interest to the whole oil industry. It is a continuation of the trend toward a greater use of liquid and gaseous hydrocarbons as chemical raw materials. It is an important hedge for the oil industry if newer forms of energy, such as atomic power should eventually cut into petroleum's fuel markets.

Gas and oil already lead coal and natural fibers as plastic raw materials. And the biggest plastic material in terms of production capacity is polyethylene, a polymerized olefin that can be made commercially only from oil or natural gas.

The newest plastic raw material appears to be polypropylene. And it may be the forerunner of other crystalline resins, such as polybutylene and polybutadiene.

Research, particularly with polypropylene, is underway both in the U. S. and abroad. Phillips Petroleum's low-pressure polyethylene process has been tried on polypropylene. At least one other U. S. oil company is believed to be working on a polypropylene process. And Phillips is reportedly working on a copolymer of propylene and ethylene.

The biggest interest in polypropylene has centered around a catalytic, low-pressure process developed in Italy by Dr. Giulio Natta, of Milan Polytechnical Institute.

The Italian chemical firm, Montecatini, has the rights to the process. Last week its managing director, Dr. Piero Giustiniani, arrived in the U. S. to discuss licensing arrangements. Montecatini is building a commercial plant at Ferrara, Italy, that will go on stream next January. Several U. S. firms are interested in the process and one or more licensing agreements are expected to be reached this summer.

The Natta polypropylene process involves a unique structure of regularly arranged molecules, firmly held together. Dr. Natta has coined the word "isotactic" to describe his polymers of crystalline material.

He has made a polymer of the formula—CH_2-CHR-CH_2-CHR-CH_2-CHR. In this structure the side groups (R) spiral around the main chain, returning to a similar position every three units of the structure (schematic, at right).

This isotatic configuration can apply to polymers of butylene and other aliphatic olefins. The only change is that the "R" groups (CH_3 on the diagram) would then be a different radical. Polyethylene is not an isotactic polymer by Natta's definition because it lacks an "R" group, which is essential to the alternating pattern of the isotactic configuration.

Natta has also produced experimental isotactic polymers of butadiene and styrene.

The manufacture of the Natta-developed polymers involved a catalytic, low-pressure processing, which permits what might be termed directed, or controlled, polymerization. The catalyst developed by Natta is believed to be one of a series of metal alkyl, metal halide complexes.

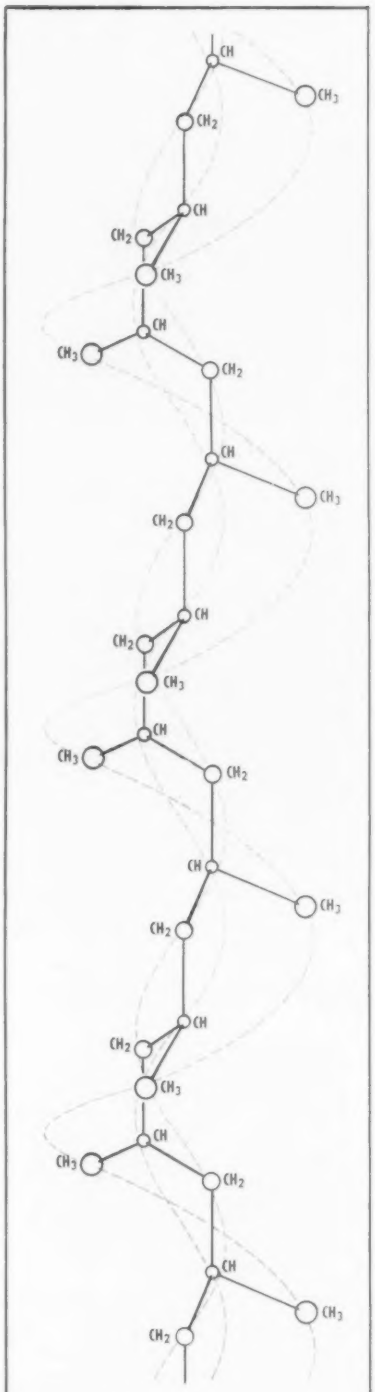
Advantages claimed for the isotactic polypropylene are that it has a greater resistance to heat and solvents than does polyethylene. The isotatic polymers also have a high tensile strength—said to be greater than that of nylon and acrylics—which gives the new polymers many potential appreciations in synthetic fabrics.

Another important advantage, for the present at least, is that propylene, is cheaper than ethylene. Propylene is produced as a byproduct of cat cracking, thermal cracking, and thermal reforming. It is also produced when propane is cracked to get ethylene.

Propylene's most important use so far has been polymerization in refineries to get a higher octane blending component for gasoline.

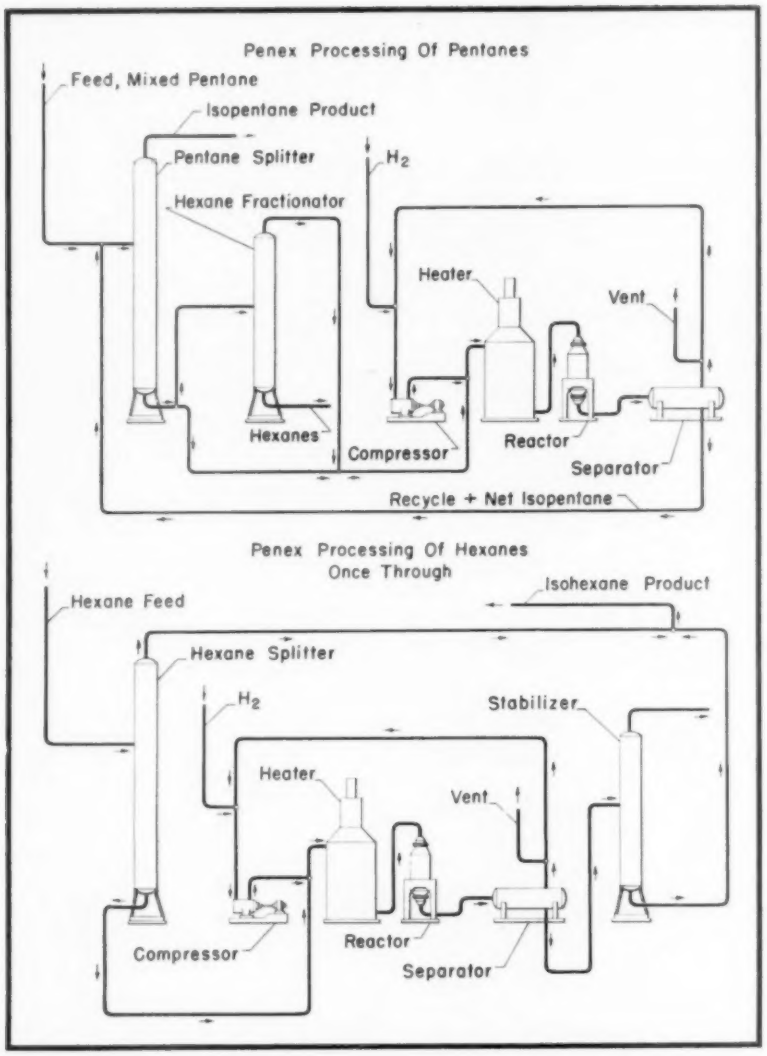
A price for propylene or butylene is largely conjectural. Much depends on the demand for these raw materials for chemical uses.

Chemical Week, a McGraw-Hill publication, estimates that, based on present demand, propylene could probably be charged to a chemical process for ½¢ a lb. This compares with a current ethylene price of about 5¢ a lb.



Schematic of structure of isotactic polypropylene

AT A GLANCE © PETROLEUM WEEK



UNIVERSAL OIL PRODUCTS' new Penex process is one way of . . .

Isomerizing for Higher Octanes

Research octane ratings of low-octane pentane and hexane fractions in refinery naptha cuts can be increased by 10 to 12 numbers through isomerization with Universal Oil Products' new Penex process.

Some details of this isomerization process (PW—Apr.27'56,p36) were reported by UOP this week at the Pennsylvania Grade Crude Oil Assn. meeting at Bradford, Pa.

The process technique offers high yields of products through catalytic processing at mild operating conditions and without catalyst regeneration. The reaction is carried out in the presence of hydrogen. With most feeds the consumption of hydrogen is insignificant, according to UOP.

The over-all heat of the reaction is low. Only a single heater and a single reactor are needed.

Isomerization of mixed pentanes feeds results in a total liquid product yield of 99% with a clear research octane rating of 90.9. This can be raised to 102.7 with the addition of 3 cc. of tetraethyl lead per gal.

The pentane isomerization (top panel) is a recycle operation involving fractionation of a mixture of fresh feeds and reactor effluent. It produces an isopentane overhead distillate along with a bottom fraction for charging to the Penex reactor.

Of the total yield, 93% is an isopentane fraction with a 91.3-octane (unleaded) rating, or about 30 numbers above the normal pentane in the mixed pentane feed.

A yield of 97% of a 74.4-research-octane (unleaded) product is obtained with a once-through processing of hexanes in the Penex isomerization process (bottom panel). With the addition of 3 cc. of TEL, the octane of the total yield is raised to 93.8.

In the once-through operation, feed hexanes are fractionated to separate low-boiling, high-quality isomers, and the heavier, low-octane hexanes are then processed in the reactor. The reactor product is stabilized and blended with the low-boiling isomers to yield the final product.

A recycle operation (not shown) is possible, resulting in a leaded research octane rating in excess of 96.

What's New
IN REFINING

Southland Co. plans to expand the capacity of the former Delta Refining Co. refinery at Memphis to 10,000 b/d or 11,000 b/d, the company said this week.

Expansion and modernization of the 6,000 b/d refinery will be necessary, the company said, to keep up with the octane race. Included in the program will be an expansion of the existing 3,100 b/d cat cracker and the addition of an alkylation plant.

Southland purchased the Delta refinery last week from MFA Oil Co., a subsidiary of the Missouri Farmers Assn., for a reported $4-million.

Southland, which has 5,500 b/d of refining capacity in Mississippi, is planning an expansion of its marketing outlets in that state. It also plans to enter Arkansas and Tennessee.

•

A second oil company is showing interest in building a refinery on the Tulalip Indian reservation, near Marysville, Wash.

Representatives of Union Oil Co. of California are studying possible sites on the reservation. Union has asked Rep. Jack Westland (R., Wash.) for details of a bill passed by the Senate last week which would permit the Indians to sell lands with the consent of the Secretary of the Interior.

The bill was introduced after Richfield Oil Co. expressed an interest in the land.

•

A 1,310-acre site in Muskogee County, Okla., has been selected for the Navy's $35-million plant to produce "high energy fuel."

A Navy request to buy the site was

approved last week by the House Armed Services Committee. The new fuel, which the Navy has classified, is believed to have a boron base. It is expected to be used for missiles and jet engines.

•

Lake Charles Chemical Co. has awarded a contract to Fluor Corp. to design, engineer, and construct a delayed coking and calcining unit of about 10,000 b/d. The unit will be built adjacent to, and operated as part of, Continental Oil Co.'s Lake Charles (La.) refinery. Total cost is estimated at $6¼-million.

•

B. A. Shawiningan, Ltd., is expanding phenol production capacity at its Montreal East plant by 50%. The company is a jointly owned subsidiary of British American Oil Co. and Shawiningan Chemicals, Ltd.

•

Excelsior Refineries, Ltd., is planning to double the storage capacity at its new 2,000 b/d refinery at Dawson Creek, British Columbia. When the project is completed, storage capacity will be 6-million gal.

•

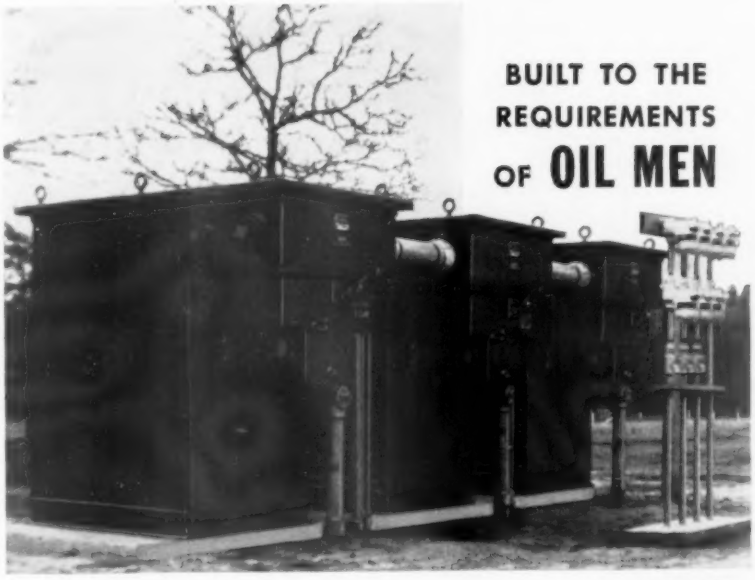
The second Atlantic Catforming unit has gone on stream in Italy. The newest, an 800 b/d reformer, was built for the Italia S.P.A. refinery at Cremona.

The previously built Catformer, a 500 b/d unit, is at the Valmadrera refinery of Raffineria Olii Minerali I.L.S.E.A.

Happy Birthday, Catalytic Cracking

The 20th anniversary of the first commercial catalytic cracker to go on stream—termed the start of modern refining's Golden Age—went by hardly noticed last week.

The first unit, no longer in operation, was built at Socony Mobil's Paulsboro (N. J.) refinery. The silica-alumina pelleted catalyst and the fixed-bed process design were based on developments of Eugene J. Houdry.



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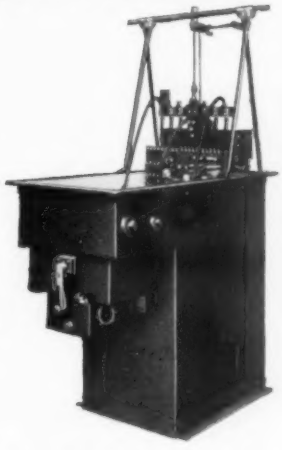
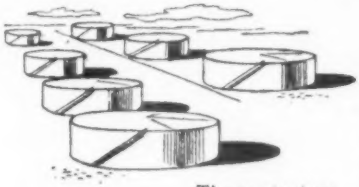


Contactor and Relay Panel are bolted together for raising as a unit above the oil. No leads or bolts to disconnect. Shown is Cat. No. 2645A Lifting Mechanism, available at small cost.



These starters are designed specifically for Division 2, semi-hazardous locations. They are low in first cost and are easy to service when inspection or maintenance are necessary. They require little floor space.

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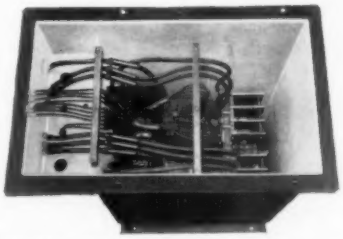
Before buying 2300-5000 volt motor starters, investigate EC&M Type ZHS Starters. They provide economy in installation, operation and maintenance, and are available in a range of horsepower sizes.

Write for Bulletin 1062-20.



Looking down into starter showing anti-syphon lead construction from contactor, control transformer and overload relay panel to conduit connection box with threaded couplings. Starter with oil disconnect switch shown in views above.

6586-EC&M

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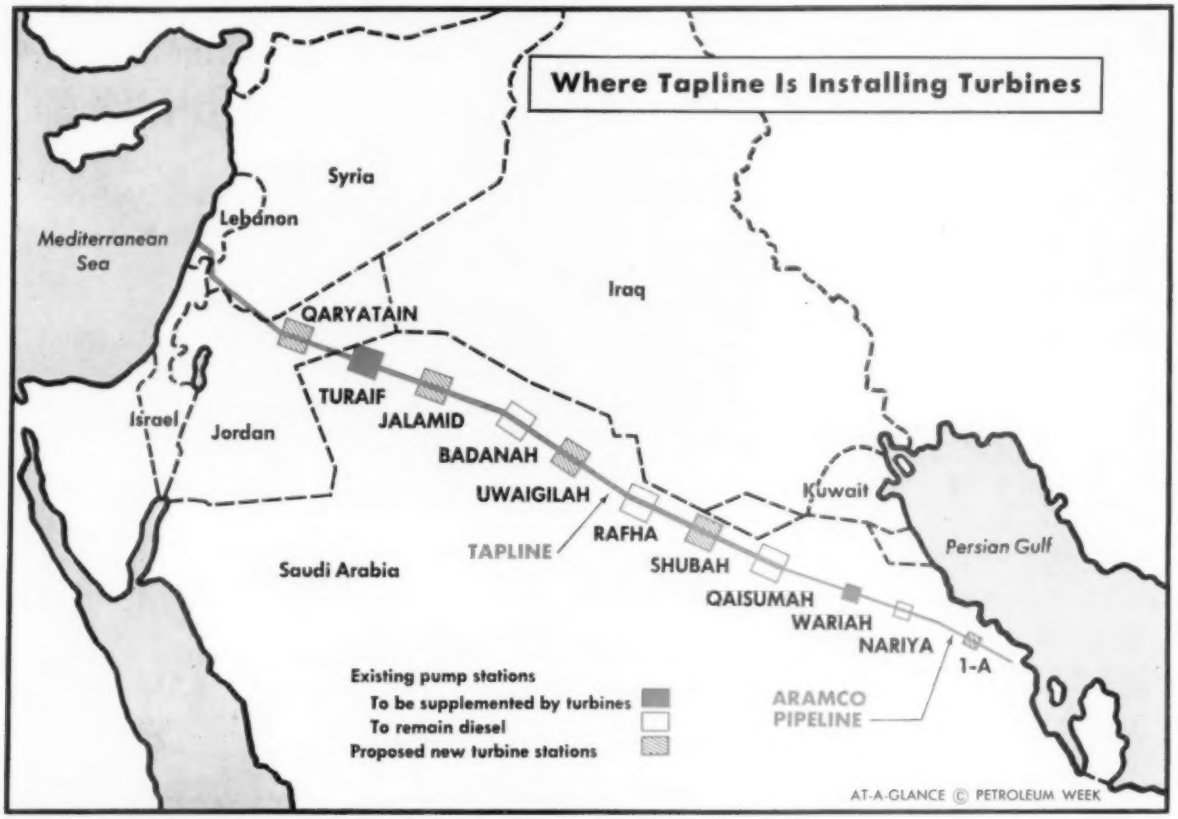

MIDDLE EAST CRUDE LINE will be first to use gas turbines. Here's the story on . . .

Why Tapline Will Try Out Turbines

Trans-Arabian Pipe Line Co. will test crude-powered gas turbines next year—a novel project designed to pump up to 410,000 b/d of Saudi Arabian crude to the Mediterranean port of Sidon, Lebanon (PW—May 11'56,p48).

Tapline has ordered a total of six gas turbine "packages" to boost capacity of its 754-mi. line (30-in. and 31-in. pipe) by about 90,000 b/d.

Two more turbine installations will step up the gathering system of Arabian-American Oil Co., from which Tapline gets its throughput.

International General Electric Co. is handling the order.

The packages will each consist of four housings, or vans. One will contain a simple-cycle, two-shaft G.E. turbine, connected directly to a Byron Jackson single-stage centrifugal pump that will operate at 4,500 to 5,000 rpm. A firewall will separate the two units.

Another van will house air filters and controls. A smaller van will house radio equipment and standby power supply (a 45-kva. generator driven by a Deutz engine). A trailer for parts and tools, with emergency sleeping quarters, will round out each package.

Aramco will receive the first, to be installed early next year near the company's present station at Wariah (map).

The rest will be added to the combined Aramco-Tapline system before the end of 1957.

This program marks the first plan for use of gas turbines on liquid lines anywhere. The turbines ordered by Aramco and Tapline will also be the first to burn crude. (The word "gas" in "gas turbine" refers to the expanding combustion vapors that drive the turbine, not the fuel.)

One reason that Tapline will try turbines—so far considered uneconomical for liquid pipelines—is that the company has high horsepower requirements.

Tapline now has a battery of 1,710-hp. diesels at each station. To help get the desired capacity increase, Tapline will put aftercoolers on these diesels and bigger impellers on the pumps.

One turbine, however, will be able to supply each of the new installations with as much horsepower as is provided by several diesels at the existing stations.

Actually, because Tapline stations range in elevation from 1,177 ft. to 2,719 ft. above sea level—and temperatures range from a high of 120F in summer to a low of 30F in winter—the company had to order 7,000-hp. turbines in order to be assured of 5,000 hp. under rating conditions of 110F at 2,600 ft. (Horsepower is normally rated at 80F at 1,000 ft. Power decreases as temperature and elevation increase.)

Above the 2,500-hp. range, though, per-horsepower cost progresses in favor of turbines over diesels. And Tapline's requirement of additional horsepower to compensate for adverse climate and

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This lightweight pipe is only 1/12th the weight of cement-lined metal pipe. It has good impact resistance and performs well over a wide temperature range.

The petroleum industry has long sought a lightweight, corrosion-resisting pipe that would be strong enough to take the abuse of oil field use. Tenite Butyrate gives you this combination. Years of successful service in all types of fields prove its complete suitability for crude, corrosive water and brine lines. Mail the coupon for more information plus a list of Tenite pipe suppliers. EASTMAN CHEMICAL PRODUCTS, INC., Kingsport, Tennessee, subsidiary of Eastman Kodak Company.

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Evanston, Illinois

"... Tapline will be able to achieve 'remote maintenance' through use of turbines ..."

Turbines starts on p. 44

geology put the company's needs within range of one of the smallest turbines that GE makes.

The factor that probably played the biggest part in the decision to try turbines, however, is that turbines will enable the company to add unattended auxiliaries between its stations.

Tapline stations are about 200 mi. apart. Keeping personnel at these points supplied with food, water, and some 26,000 storehoused items is a tough, costly effort. And it's complicated in some spots by ticklish community relations problems.

At Badanah, for example, an Arab community of more than 5,000 has grown as a result of Tapline's original provision of fresh water to the station. This situation keeps the company occupied with hospital, road, sewage-disposal, and other community-planning projects.

At Turaif, tribesmen herded scores of thousands of camels and sheep into the area last summer—so taxing the water supply that local officials of the Saudi Arab government finally ordered several tribes to move out. At that, Tapline supplied the departing "guests" with water from tank trucks.

New attended stations between present ones undoubtedly would have multiplied these nonpipelining problems, so:

The new auxiliaries will be completely remote-controlled.

A VHF system (specific frequency range still undecided) will control Tapline installations from the next upstream station. The new system will supplement the high-frequency system now operating.

Suction pressure, discharge pressure, discharge pressure controller set point (which varies the turbine speed), and temperature of the filtered air flow to the turbine compartment will be transmitted to the controlling station. The VHF system will start and stop the auxiliaries, and vary the load.

Safety devices will shut down the units automatically in the event of excessive vibration, high bearing temperatures, low suction pressure, high discharge pressure, indications of fire, or other comparable situations.

Suction and discharge valves will have piston operators utilizing main-line oil pressure as the power source. These valves will close automatically whenever the units shut down.

In addition, necessary shutdowns will be possible without using the radio system—by reducing line pressure at the preceding pump station.

The simplicity of the turbine, compared with the number of moving parts in a diesel, is expected to contribute to the success of this automatic operation by reducing the possibilities of failure.

Besides getting unattended operation, Tapline will be able to achieve "remote maintenance" through use of turbines.

The new station at Qaryatain, Jordan, now a Tapline delivery point, will be a permanent installation. So will the turbine supplement to be added to the present westernmost station at Turaif.

The rest will be in skid-mounted housings, capable of being hauled by special trailer to Turaif or Dhahran. Each auxiliary will have double accommodations for both power van and filter-control van. A "spare" set of vans, to be parked normally at Badanah, will be installed temporarily at the duplicate manifold and foundation facilities wherever Tapline wants to take an operating unit out of service for inspection or repair.

In the horsepower range desired by Tapline, diesels would have been too heavy for such portability.

The use of Arabian crude as fuel for the turbines will be feasible through addition of magnesium sulfate (Epsom salts). The type of crude pumped by Tapline contains vanadium, a chemical that could cause corrosion when burned at high temperature. To prevent this, the Epsom salts will be added automatically after the crude is metered and filtered on its way from the pipeline to the turbine.

A sufficient supply will be provided at each location to last the period between inspections.

Tapline realizes that specific fuel consumption of the turbines will be greater than that of comparable diesels. But other advantages of the turbine are expected to outweigh this.

To round out the program, Tapline will install a 180,000-bbl. floating roof tank at Rafha, Badanah, and Turaif, plus three similar tanks at the Sidon terminal.

The station tanks will provide additional flexibility during maintenance and inspection periods. The Sidon tanks will provide a five-day storage allowance for the additional throughput.

Estimated cost of all new facilities is about $14-million.

What's New / IN TRANSPORTATION

Trans-Canada Pipe Lines, Ltd., will start laying the first leg of Canada's controversial, cross-country natural gas line on July 1.

As expected, Canada's Liberal government rammed through an $80-million loan to the company, so that Trans-Canada can complete the line as far as Winnipeg before the end of the year (PW—Jun.8'56,p42). The company expects to lay 34-in. pipe at a rate of 6 mi. per day for 100 days—counting bad-weather allowances.

The project was previously tied to approval by the U. S. Federal Power Commission of a Trans-Canada plan to sell gas to Tennessee Gas Transmission Co.—still being debated before FPC.

•

The recently discovered Citronelle pool in Alabama (PW—Jan.27'56, p21) is about to get a pipeline. Gulf Oil Corp. will build a 33-mi., 8-in. line from the Citronelle field to its deep-water facilities at Mobile.

Gulf with ten producers and ten more wells drilling in the area, now trucks 3,500 b/d to Mobile. The pipeline, with short laterals to individual lease batteries, will carry about 28,000 b/d.

•

The Navy wants $4.2-million from Congress in fiscal 1957 to spend on 12 storage projects that would add 335,000 bbl. to its reserve capacity.

Testimony released last week by a House Appropriations subcommittee shows that the Navy is planning five projects in the U. S., five abroad, and two at classified locations.

Largest of the projects will be at Adak, Alaska ($1.1-million for 54,000 bbl.), and at Argentia, Newfoundland ($1.5-million for 113,000 bbl.).

•

American Oil Co., has finally firmed up the details of its decision to "jumboize" three T-2 tankers—having previously established that the Maritime Administration will permit tanker trade-outs for this type of conversion (PW—Apr.6'56,p24).

Newport News Shipbuilding & Dry Dock Co. will lay the keel of a new midbody for the first tanker to be converted, on Aug. 31. The Amoco Delaware will then arrive in the shipyard Nov. 10, when bow, stern, and midship housing will be separated from the present cargo-carrying midbody and the new midbody inserted. The vessel is scheduled to return to service, with 25% more capacity, by Jan. 15.

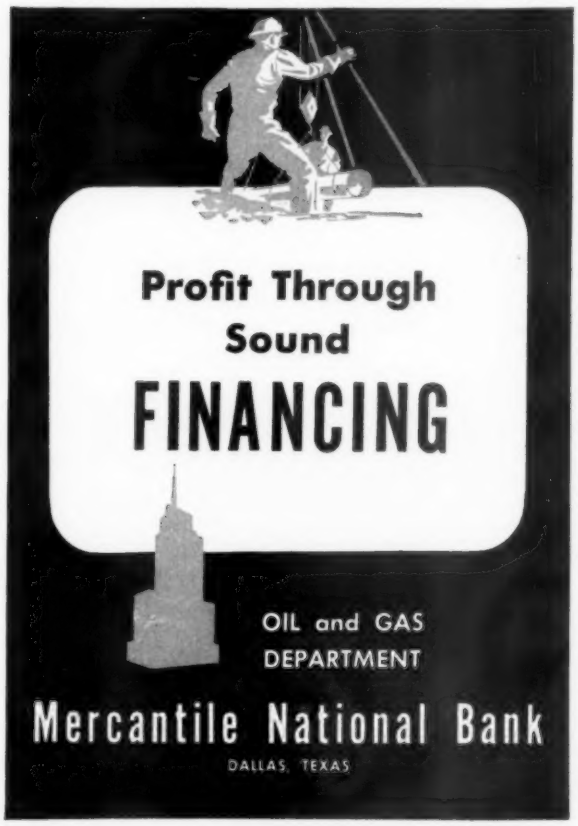
•

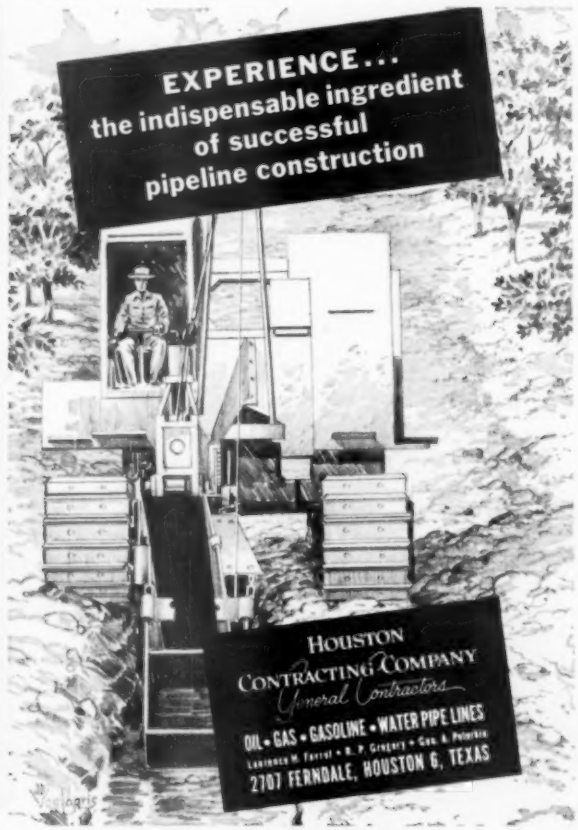
Du Pont will start shipping tetraethyl lead compound in its own tanker early next year.

Expanded portside storage facilities at Beaumont, Tex., says the company, will soon justify tanker-size shipments from Du Pont's Chambers Works plant in New Jersey. TEL compound has been shipped by water before, but in drums, tank cars, or other containers.

In the new operation, Du Pont will lease a converted fruit ship from Valentine Chemical Carriers, Inc., of Oradell, N. J.

Present dry-cargo holds will be modified to accommodate some cylindrical pressure vessels and some conventional steel tanks.





The Market Place AROUND THE WORLD

Prices compiled for PETROLEUM WEEK by Platt's OILGRAM Price Service and National Petroleum News, McGraw-Hill Publications

All Prices as of June 11

Bold face type indicates changes from previous week

KEY PRICES—REFINED PRODUCTS

(¢ per gal. except dollars per bbl. where $ is shown)

Western Hemisphere

U. S. Gulf Coast, Cargoes
- Gasoline, 98 oct prem....13.25-13.75
- Gasoline, 92 oct reg....11.5-12
- Kerosine....9.5-9.75
- Heating oil, No. 2....8.75-9.5
- Gas oil, 48-52 d.i....9.125-9.375
- Fuel oil, bunker "C"....$2.10-2.15

Caribbean, cargoes
- Avgas, Grade 100/130....16.75
- Gasoline, 93 oct research prem....11.75
- Gasoline, 87 oct research reg....10.5
- Gasoline, 79 oct research....9.75
- Gasoline, 70-72 oct motor method....9.5
- Kerosine....9.5
- Heating oil, No. 2....8.75
- Gas oil, 48-52 d.i....9.125
- Fuel oil, bunker "C"....$2.10

New York Harbor, barges
- Kerosine....10.85
- Heating oil, No. 2....10.35
- Fuel oil, No. 6....$2.65

Okla.-Group 3, northern shpt, bulk
- Gasoline, 88 oct reg....11.75-12
- Kerosine....10-10.25
- Heating oil, No. 2....8.875-9.5
- Fuel oil, No. 6....$2.00-2.20

Chicago, bulk
- Gasoline, 91 oct reg....13-13.25
- Heating oil, No. 2....10-11.1
- Fuel oil, No. 6, high sulfur....7.7-8.05

Los Angeles, rack
- Gasoline, 84 oct reg....12.4-13.15
- **Diesel fuel, PS 200....9↓-9.8**
- Light fuel, PS 300....$2.65
- Heavy fuel, PS 400....$2.15-2.25

Natural Gasoline, Grade 26-70
- FOB Group 3....4.5
- FOB Breckenridge, Tex....4

LP-Gas—Propane
- Oklahoma (Group 3)....4.5

Penna Lubes
- Bright stock, 25 p.t....26
- 200 vis. neutral, 25 p.t....22.5-23

Mid-Continent Lubes, Tulsa basis
- Bright stock, solvent 95 v.i....24-25
- Neutral, solvent 200-210 vis....19.75-20.75

Gulf Coast Lubes
- Bright stock, solvent, 95 v.i....25
- Neutral, solvent, 200 vis....21.5

Eastern Hemisphere

Singapore, cargoes
- Avgas, Grade 100/300....18.375
- Gasoline, 79 oct research....10.5
- Gasoline, 70-72 oct motor method....10.25
- Kerosine....10.125
- Gas oil, 48 d.i. minimum....9.75
- Fuel oil, light....$3.30

KEY PRICES—CRUDE OIL

(2¢ differential per deg. of grav. applies except as noted)

Western Hemisphere

United States (at the well)
- Mid-Continent, 36.0-36.9....$2.82
- North Dakota, 36.0-36.9....2.82
- Texas:
  - Gulf Coast, low cold test, 26.0-26.9....2.95
  - Gulf Coast, upper and lower, 26.0-26.9....2.82
  - West Texas sweet, 36.0-36.9....2.82
  - West Texas-New Mexico intermediate, 36.0-36.9....2.75
  - West Texas-New Mexico sour, 32.0-32.9....2.61
  - East Texas, flat price....2.90
  - Mirando, 28.0-28.9....2.96
- **Illinois Basin, flat prices....2.90↓-3.00**
- Penna Grade, Bradford dist. flat price....4.45
- California, Signal Hill, 21.0-21.9....2.41†
- North Louisiana-Arkansas, 36.0-36.9....2.82
- **Wyoming sweet, 36.0-36.9....2.75↓**
- Wyoming sour, 32.0-32.9....2.48

Canada (flat prices, at the well)
- Acheson-Stony Plain (Alta.) D-2, D-3, L. C....2.54
- Leduc-Woodbend (Alta.) D-2, D-3....2.60
- Redwater (Alta.) D-3....2.49
- Daily-Mississippian (Man.)....2.34
- Smiley-Viking (Sask.)....2.26

Venezuela (Cargoes, FOB lifting port designated)
- Cumarebo, 48.0-48.9, Tucupido....3.40
- San Joaquin, 41.0-41.9, Puerto la Cruz....3.04
- Oficina, 35.0-35.9, Puerto la Cruz....2.80
- Tia Juana Medium, 26.5-26.9, Amuay....2.30*
- Bachaquero, 16.5-16.9, Amuay, Las Piedras....1.90**
- Tarra, 38.0-38.9, Cardon....2.91
- Lagunillas Heavy, Amuay, Cardon, Las Piedras, flat price....2.05

Differential per ½ deg. grav.: (*) 2.5¢ bbl. (**) 3.5¢ bbl.
†Differential per deg. of grav. varies.

Eastern Hemisphere

Middle East, Persian Gulf (Cargoes, FOB lifting port)
- Arabian, 36.0-36.9, Ras Tanura....1.97
- Basrah, 32.0-32.9, Fao....1.79
- Iranian, 34.0-34.9, Bandar Mashur....1.91
- Iranian, 34.0-34.9, Abadan....1.86
- Iraq, 36.0-36.9, Fao....1.87
- Kuwait, 31.0-31.9, Mina-al-Ahmadi....1.72
- Qatar, 39.0-39.9, Umm Said....2.06

Middle East, Eastern Mediterranean
- Arabian, 36.0-36.9, Sidon....2.46
- Iraq, 36.0-36.9, Tripoli, Banias....2.46

Far East, (Cargoes, FOB Lutong, Sarawak)
- Seria Light, 37-38....2.60

KEY TANKER RATES

(Last paid, per long ton, single voyage)

- U.S. Gulf-New York, clean....(USMC+30%) $3.71
- U.S. Gulf-New York, dirty....(USMC+75%) $4.99
- NWI-USNH, dirty....(USMC+70%) $4.59
- NWI-UK/Cont., dirty....(Scale+105%) 72/10*
- **Pers.Gulf-UK/Cont.,dirty (MOT+107½%)112/1*†**
- Persian Gulf-USNH, dirty....(USMC+45%) $18.92

**Sterling Owners asked: (1) $5.70 (USMC +100%).*

The Market Trend

For the East Coast: The Big Buildup

A big slug of distillate fuel oil has to be "put in its place" by the end of summer. The amount: 50-million bbl. The place: the East Coast.

The distillate supply gap in the East is by far the largest ever. Over 80-million bbl. of distillate fuel oils must be "on location" in East Coast tanks by fall. There are not much over 30-million bbl. in storage right now, the lowest stock for this season in four years. Another 50-million bbl. must be got up by fall, and the rate of buildup in the East since May 1 has been very slow.

Until this supply hurdle is jumped, all price changes in the East, and most of the trading at the Gulf, will be determined by how far the inventory accumulation has progressed. It's a big hurdle, too. A 50-million-bbl. stock rise in the East is the equivalent of 30 T2 tankers running from the Gulf to North of Hatteras points, in distillate service alone, from now to Nov. 1.

And no matter how you slice it, all the heating oil on the East Coast has to arrive by tanker—whether it comes up in dirty bottoms in the form of crude, or in clean tonnage as finished distillates.

But there's where the catch is. Tanker rates are bull hard. Ship owners are asking USMC + 100% for Gulf-New York trips—about 2.3¢ a gal. for No. 2 fuel—which is three times the rates paid in past summers.

So a pattern is shaping up with lots of overtones. High tanker rates, by throttling down Gulf-New York voyages, will probably keep East Coast distillate markets firm all summer. Some oil will back up at the Gulf. The Midwest could feel the situation, too, in increased sales: Canadian buyers as yet have not nominated tankers for their Caribbean No. 2 liftings. There's a good chance Canadians may pick up supplies by barge from U. S. plants on the Great Lakes.

LPG—A Firm Summer?

Propane marketers aren't finding too much cheap material to sock away in salt-dome storage for next winter. About the biggest discount that can be found is 0.5¢ off Group 3 prices. One marketer says he'll "have to run for it" to get his underground filled by summer's end.

Paradoxical aspect of situation is that Midwest buyers are holding off purchases, hoping for a price drop. This may backfire. Resellers have to buy in the summer to get winter "credits" against their quotas. If all the accounts do their summer buying late, the result may well be a price rise this fall.

Watch developments on the new European-developed plastic, polyproplyene (page 41). If it catches on in the U. S., it will be a new market outlet for volatiles, mainly propane.

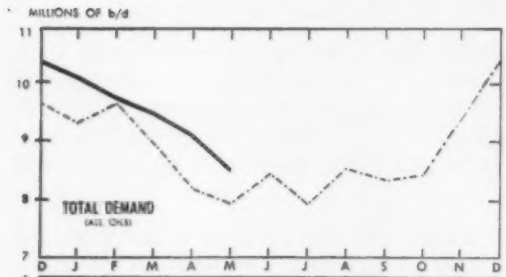
Gasoline:

More general increases in tank wagon, but a few soft spots showing up in bulk markets. Sohio boosted prices 0.5¢ generally in Ohio. Esso Standard increased by 0.1¢ to 0.5¢ in Louisiana and the Carolinas. Kentucky Standard advanced 0.5¢ a gal. in five southeastern states.

But some Chicago marketers noted that sales are off, have reduced prices 0.25¢ a gal. At the Gulf, the much-touted "second wave" of gasoline buying (the first was in early spring) hasn't materialized.

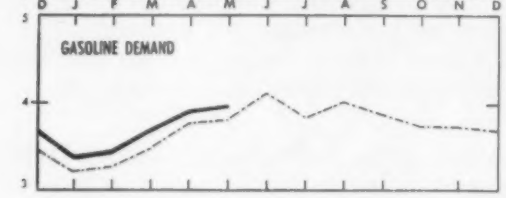
PETROLEUM WEEK'S

Fingertip Figures



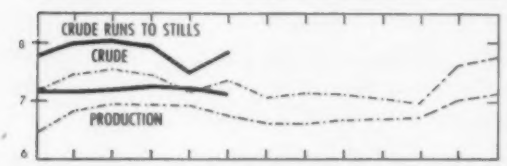
TOTAL DEMAND

Latest 4-week average	8.356
Year ago	8.035



GASOLINE DEMAND

Latest 4-week average	3.989
Year ago	3.859

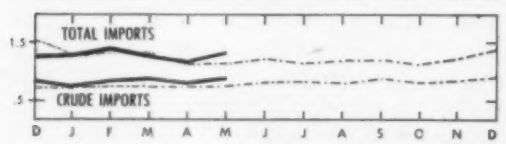


RUNS TO STILLS

Latest week	8.029
Previous week	8.072
Year ago	7.522

CRUDE PRODUCTION

Latest week	6.998
Previous week	7.037
Year ago	6.600

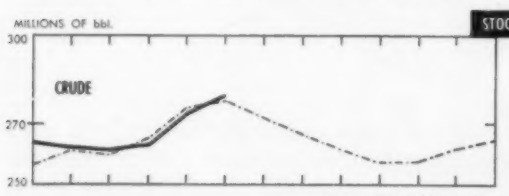


TOTAL IMPORTS

Latest week	1.276
Previous week	1.045
Year ago	1.078

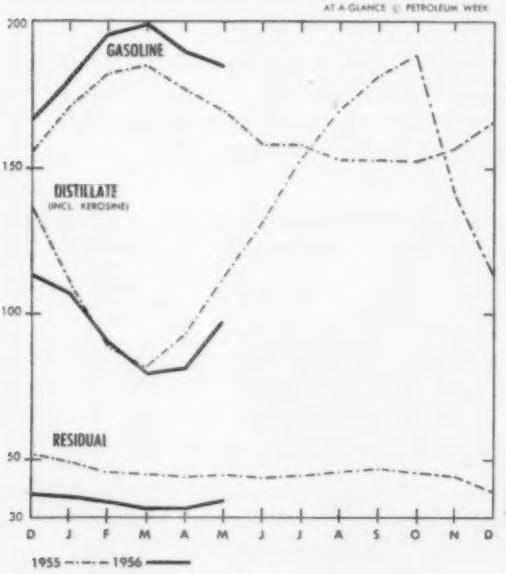
CRUDE IMPORTS

Latest week	.969
Previous week	.697
Year ago	.719



CRUDE STOCKS

Week ended 6-2	275.7
Previous week	278.1
Year ago	278.2



GASOLINE

Latest week	184.4
Previous week	184.9
Year ago	166.2

DISTILLATES

Latest week	103.5
Previous week	99.3
Year ago	115.4

RESIDUAL

Latest week	36.7
Previous week	35.8
Year ago	45.2

Gasoline demand during the first ten weeks of the "motoring season" ran a little below expectations.

Since the end of March, motor fuel demand has averaged 3,948,000 b/d, a gain of only 3% over the like part of last year. Estimates had been that gasoline demand in the second quarter would show a gain of at least 4% over 1955.

Gasoline demand in the first five months of the year has been running better than expected, averaging 4.9% above the January-May period of 1955.

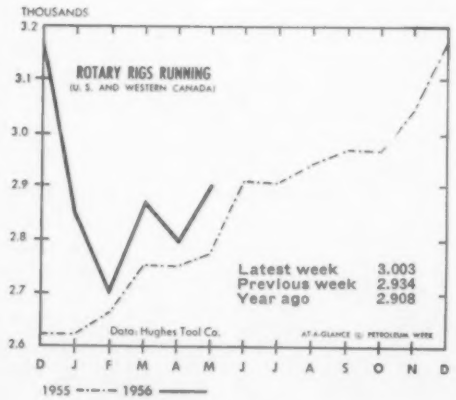
The good showing through May was due to a higher than expected (4.8%) gain in the first quarter over 1955. Demand in April (up 4.2%) was up to expectations, but May was below industry estimates. The poorer showing last month is attributed primarily to cold, wet weather—which means less driving. (The month had 23.3% more degree days than "normal" and 91% more than the previous May.)

Gasoline production during the last ten weeks has not been geared to the lower-than-anticipated demand.

Refinery output of motor fuel has averaged 3,673,000 b/d since Mar. 31, up 5.3% over the corresponding 1955 period. Also, gasoline yields have been high.

The result is a continuing high inventory of gasoline in primary storage, which could be troublesome during the summer months.

Current gasoline stocks are 18.3-million bbl. above a year ago. At the end of March, the inventories were only 15.7-million bbl. above the Mar. 31, 1955, level.


THOUSANDS
ROTARY RIGS RUNNING
(U. S. AND WESTERN CANADA)
Data: Hughes Tool Co.
AT-A-GLANCE ⓒ PETROLEUM WEEK
D J F M A M J J A S O N D
1955 1956

Latest week	3.003
Previous week	2.934
Year ago	2.908

DANIEL CLARK ION will manage exploration for Triad Oil Co., Ltd., subsidiary of British Petroleum Co., at Calgary, Alberta. Ion joined Anglo-Persian Oil Co., predecessor company of BP, in 1933. He was named principal geologist for Iran and Iraq in 1948, and in 1952 became geological and production representative in the company's central planning department, in London. In 1954, he was named manager of the planning group of the supply and development division. Since then, he has been on special duty with BP's production department in London.

JOHN E. BELL has been named chief engineer for Sinclair Refining Co., New York. He succeeds **Thomas D. Tifft,** who is retiring after 36 years of service. Bell joined Sinclair in 1934, and was put in charge of the company's central engineering department, at East Chicago, Ind. **Donald E. Hanson** succeeds Bell as assistant chief engineer of the company's manufacturing department.

STUART E. BUCKLEY has been named assistant manager of exploration for Humble Oil & Refining Co. He succeeds **Ed J. Hamner,** who was recently elected a director. **Dr. Claude R. Hocott** succeeds Buckley as head of Humble's production research division. Hocott was formerly assistant head of the division.

R. R. McCOY, assistant marketing coordinator for Standard Oil Co. (N.J.), has been named president of Pate Oil Co., newly acquired Jersey Standard subsidiary. He will succeed **William R. Pate,** who is retiring. **E. R. Smith,** of Jersey Standard, will be executive vice-president and director, and **M. B. Denning,** of Jersey Standard, will manage supply and distribution. **John H. Van Dyke,** of Pate, will be a director and secretary-treasurer.

J. RUSSELL SHERMAN has been elected president and chief executive officer of Oceanic Oil Co. Sherman was formerly executive vice-president. He succeeds **Fred M. Keller,** who is retiring. Keller will serve as a consultant for the company.

OSCAR LOVELESS will superintend drilling for Green & Heiser Drilling Co., Bakersfield, Calif. He was formerly a tool pusher for the company. **Velton Walker** and **Orville Fraker** have been named drilling foremen.

ARTHUR W. MANLEY has been elected vice-president of Mississippi River Fuel Corp. He will also continue as secretary of this midwestern natural gas producing company. **C. J. Maurer** has been named treasurer. He succeeds **Charles Shuttleworth,** who is retiring.

OLIVER G. (Pete) MORGAN has been named vice-president and a director of Texas-Hanover Oil Co. **Walter M. Wilkinson** has been appointed to the company's advisory board.

ROBERT J. MENZIE has joined Tidewater Oil Co. as senior engineer in the gas utilization department, southern division, at Houston. He formerly was with the Federal Power Commission, in Washington, D.C.

JAMES MOORE, Kellogg Oil Co., has been elected president of the Louisiana Oil Marketers Assn. He succeeds **Curtis Parker.**

BILL KLEINE has been named crude oil representative for Permian Oil Co. and sales representative for Western Oil Transportation Co. He was formerly assistant manager of field operations for Phillips Petroleum Co.'s crude oil division at Bartlesville, Okla.

ALBERT L. VITTER, JR., has been named chief engineer of The California Co., New Orleans. Vitter joined California in 1945 as a petroleum engineer, and was later named assistant chief engineer—petroleum. He succeeds **Earl M. Kipp,** who was recently named a director of the company.

AUGUSTIN PYRE has been named general manager of Gulf Oil Corp.'s New York exploration division, which was formerly known as the foreign production division. He will be responsible for all of Gulf's exploration in Caribbean and South American countries except Venezuela. Pyre was formerly staff assistant in the exploration department of Gulf Eastern Co., London. He succeeds **Claude Woessner,** who is retiring after 29 years of service.

HARRY A. BROWN has resigned as vice-president of manufacturing for Frontier Refining Co., Cheyenne, Wyoming. Brown will join D-X Sunray Oil Co. as vice-president of refining.

W. H. FITZGERALD, Continental Oil Co., has been elected president of the Panhandle Geological Society. Other new officers are: **Stan Hardison,** Kerr-McGee Oil Industries, vice-president; **Guy Leach,** Oil Development Co., secretary; and **Harold Henslee,** Phillips Petroleum Co., treasurer.

W. R. EDMONSON has resigned as vice-president of Cortez Drilling Co., Denver, to devote full time to his independent operations in the Rocky Mountain area.

BUEL HUMPHREYS and **OWEN C. BROWN, JR.,** will head the new office of Argo Oil Corp., at New Orleans. Humphreys will be district landman, and Brown district geologist. Both men previously were with Seaboard Oil Co., in New Orleans, although Humphreys has been an independent for a year.

A. W. VITT has been named assistant vice-president and assistant general manager of Seaboard Oil Co.'s western division.

W. W. GOODE has been named assistant manager of Schlumberger Well Surveying Corp.'s southeast area, at New Orleans. He was for-

merly Permian Basin division manager, at Midland. He will be succeeded in Midland by **F. L. Bryan.**

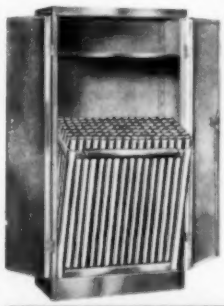
ROBERT J. MAWHINNEY, head of Houdry Process Corp.'s patent and licensing division, has been elected to the board of directors, and named vice-president for patents and licensing. **Dr. Raymond Wynkoop** has been appointed staff assistant to the president.

CHESTER W. GUTHRIE, former western division sales manager of Frontier Refining Co., Denver, will assist the sales vice-president. He will be succeeded by **William Klinger,** former Denver zone manager.

HARRELL BUDD, JR., has been elected president of the Four Corners Geological Society, at Durango, Colo. Other new officers are: **E. Parker Chipman** and **H. J. Caine,** vice-presidents; **Robert S. Breitenstein,** secretary; and **Marvin L. Matheny,** treasurer.

ALLEN K. TYLER has been appointed publicity director of the Texas Independent Producers & Royalty Owners Assn. He was formerly a member of the association's membership committee.

ROBERT P. FERGUSON will head Esso Standard Oil Co.'s economic and marketing research division. Ferguson joined the Esso family in 1936, and in 1946 became technical and economic analyst in Esso's manufacturing department.



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PETROLEUM WEEK REPRESENTATIVES

Atlanta 3 — W. H. Kearns, 801 Rhodes-Harverty Bldg., Walnut 5778

Boston 6 — Edward A. Callahan, Jr., 350 Park Square Bldg., Hubbard 2-7160

Chicago 11 — G. L. Hackley, Jr., W. F. Holbrook, 520 North Michigan Avenue, Mohawk 4-5800

Cleveland 15 — J. E. MacArthur, 1510 Hanna Bldg., Superior 1-7000

Houston 25 — David G. Sawyer, 724 Prudential Bldg., Jackson 6-1281

Los Angeles 17 — Peter S. Carberry, 1125 W. Sixth St., Madison 6-9351

New York 36 — Edward A. Callahan, Jr., Donald R. Thompson, 330 West 42nd Street, Longacre 4-3000

Philadelphia 3 — W. A. Potter, Architects Building, Rittenhouse 6-0670

San Francisco 4 — William C. Woolston, 68 Post Street, Douglas 2-4600

Tulsa 19 — J. A. Hartley, 203 Constantine Bldg., 601 South Boston, Gibson 7-7767

England, London E.C.4 — Herbert Lagler, McGraw-Hill Co., Ltd., 95 Farrington St.

Other Oil Industry Personnel Changes:

Company:	To:	From:
Anschutz Drilling Co.		
Arthur T. Freeman	Kansas div mgr	Kin-Ark Oil Co., Denver
Cities Service Oil Co.		
Donald L. Kastner	Asst div prod supt, Odessa	Dist supt, Odessa
Leonard Milligan	Dist landman, Oklahoma City	
Sam Franklin	Dist landman, Olney, Ill.	
Continental Oil Co.		
Dean Hadfield	Asst marketing mgr, southwest region, Ft. Worth	Div marketing mgr, Ft. Worth
W. E. McCullough	Div marketing mgr, Ft. Worth	Asst div marketing mgr, Kansas City
Continental Supply Co.		
William D. Craig	Mgr, Shreveport div.	Mgr, Rocky Mt div, Casper, Wyo.
Glen R. Pike	Mgr, Rocky Mt. div, Casper	Asst mgr, Rocky Mt div, Casper
Dewey Supply Co.		
R. D. Winans	Sales rep, Oklahoma City	
D. D. Feldman Oil & Gas Co.		
Dan V. Rodgers	Dist landman, Midland	Dist landman, Midland, TXL Oil Corp.
Robert E. Slingerland	Dist geologist, Midland	Dallas office
James B. Nance	Staff geologist, Midland	Dallas office
Esso Research & Eng. Co.		
Edward W. S. Nicholson	Asst dir, process research div, Linden, N. J.	Esso Research Laboratories, Baton Rouge
Fryer & Hanson Drilling Co.		
R. C. Hanson	Operations mgr, West Texas dist, Midland	
Everett R. Jones	Mgr, West Texas dist office, Midland	
Jones & Laughlin Supply Div.		
Frank W. Birmingham	Sales office mgr, Pittsburgh	Salesman, Pittsburgh
C. A. Nicklas	Eastern dist sales mgr, Pittsburgh	Asst Eastern dist sales mgr, Pittsburgh
Lane-Wells Co.		
M. P. O'Haver	Mgr, Denver office	
William Pugh	Sales eng, Denver office	
Gorman Findlay	Mgr, Craig (Colo.) office	
E. W. Earley	Mgr, Riverton (Wyo.) office	
Charles O. Ohl	Dist mgr, Great Bend, Kan.	Dist mgr, Olney, Ill.
Lewis & Ganong		
Tom Adams, Jr.	Geologist, Bakersfield	
Midwestern Pipe Line Products Co.		
John Wilson	V-p, sales, Tulsa	Sales mgr, Tulsa
National Supply Co.		
Jess D. McClendon	Tubular mgr, California div.	Supervisor of stores, California div
Republic Supply Co.		
J. C. Bergin	Dist mgr, Wichita, Kan.	Special sales rep, Houston
Schlumberger Well Surveying Corp.		
William Plasch	Dist mgr, Taft, Calif.	Santa Maria (Calif.) office
J. W. Chance	Dist mgr, Jennings, La.	Field eng.
J. K. Ryan	Dist mgr, Electra, Tex.	Field eng.
Roy R. Shourd, Jr.	Dist mgr, Big Lake, Tex.	Field eng, Midland, Tex.
Seaboard Oil Co.		
Al Morejohn	Geologist, New Orleans	Geologist, Bakersfield
Bill Mackersie	Geologist, New Orleans	Geologist, Denver
Seismograph Service Corp.		
J. R. Sanders	Mgr, Lafayette, La.	
Shell Chemical Corp.		
G. A. Grimma	Mgr, employee devel, mfg dept, New York	Asst mgr, mfg devel dept, New York
Stanolind Oil & Gas Co.		
John M. Clark	Field eng, Farmington, Okla.	Field eng, Hobbs, N. M.
Roy Bauer	Field eng, Hobbs, N. M.	Field eng, Farmington, Okla.
Union Oil Co. of California		
Harold Billman	Div geologist, San Joaquin Valley	
Union Producing Co.		
Dodd Newton Osburn	Div geologist, New Orleans	Geologist, New Orleans
U.S. Steel Corp., Oil Well Supply Div.		
Gerald E. Miller	Store mgr, El Dorado, Kan.	Arkansas City (Okla.) office
Russell R. Runyon	Store mgr, Liberal, Kan.	El Dorado (Kan.) store
Welex Jet Services, Inc.		
Herman D. Foster, Jr.	Asst dist mgr, Wichita Falls, Tex.	
New Ventures		
M. Allen Day, William G. Brownfield	Terra Exploration Co., Tulsa	

Push From Above Makes Training Go

A LOT OF big and small oil companies have now come around to the conclusion that employee-training programs only work well if operating managers at all levels take part.

Not so clear is how the managers can fit training into their busy work weeks. Until this problem is solved, it will be hard for training to move into really high gear.

District managers, superintendents, and other managerial personnel, right up to the president, are in the best position to teach others. They are familiar with daily problems and the skills needed to handle them. In both on-the-job training and formal courses, the managers can keep the program "on the ground"—often pooling their operating know-how with the specialized knowledge of techniques provided by the training supervisor. And when the line manager participates, employees take training more seriously than otherwise.

Unfortunately, although the theory is good, it's often imperfect in practice. That's because the average line manager finds he is under much greater pressure to keep a rig making hole, a refinery unit on stream, or a distributor happy, than he is to work on training. He reasons that today's operating problem is more important than employee development, which can be put off until next week.

Some companies are meeting the issue by stressing to managers their responsibilities in training people under them—especially from a management-development standpoint. Some, like Shell Oil of Canada, are pushing hard on the training of supervisors by line managers. The company revealed last month that it now requires department heads at its Montreal refinery (1) to decide the instruction that supervisors need, (2) to work with the training supervisor on the best course techniques to use, and (3) personally to lead training conferences (PW—May25'56,p31).

Significance: Training is built into the manager's job—not left largely on an "if you have time to work it in" basis.

No company in today's hot competition, including Shell, can afford to tell its people to drop everything in favor of training. But it is clear that effective training in a company —with 15 employees or with 15,000—depends on how seriously all the operating managers take the job. And they'll be only as serious as the word from the top tells them to be.

'Facts' Keep Oil Free

EVIDENCE IS GROWING that oil men are abandoning the "no comment" rule in favor of prompt fact-telling. Take "high" gasoline prices in Montana. The state's Trade Commission wanted to know why motorists paid more for gasoline in Montana than in other states.

It found out the other day—from a parade of oil men representing Continental, Indiana Standard, Carter, Texaco, and others. One after the other, these men told the commission about long hauls and high transportation costs in Montana, about the thin-volume market, about the extreme seasonal fluctuations that mean costly storage, about high labor costs, high dealer margins, and high taxes.

There was no hint of "lobbying" in the oil-company approach, as expressed to the trade commissioners by H. G. Carmichael, Texaco's Butte division manager, "The hearings you are conducting can be extremely helpful in bringing about a better public understanding of a rather complicated situation. We will do all we can to provide you with facts."

That's all it takes to keep oil competition free.

Well-known Newscaster,
WJBK-TV, Detroit

Jac LeGoff asks:

"What happens to the money a business takes in?"

W. J. Hallmann, General Accounting Department, Standard Oil Company, Chicago, Illinois:

"Our company did a whale of a business last year . . . $2,102,308,139. That's what we 'took in' as you say and includes taxes collected from customers for government agencies. At the same time we were spending $1,424,739,000 for materials used, operating and general expenses, and salaries and wages. That's equal to 67.8 per cent of the total we took in. Charges for wear and tear amounted to $139,184,000—6.6 per cent. Federal taxes on income and other taxes, including those we collected from customers for government agencies, amounted to $381,267,000—another 18.1 per cent. These costs and expenses amounted to $1,945,190,000 for Standard Oil and its subsidiaries in 1955. That's more than 92 per cent of what we took in."

P. H. Towle, Research Group Leader, Standard Oil Laboratories, Whiting, Indiana:

"In a business as competitive as ours you can't stand still or you won't stay in business very long. You have to keep on improving your product and your service all the time—and that takes money. The two-octane number increase in gasoline made between July 1, 1954, and July 1, 1955, costs the consolidated company over $10,000,000 each year. And last year alone Standard Oil invested millions of dollars in research to bring our customers more powerful gasolines, all-weather motor oils, and other product improvements."

Cyrus Wright, Payroll and Tabulating, Standard Oil Company, Sugar Creek, Missouri:

"There are more than 50,000 Standard Oilers, so you can imagine the size of our payroll! Our people earned $330,800,000 last year in wages and benefits. Yet, believe it or not, large as our payroll was, we paid out $381,267,000 for taxes of all kinds. That includes our own taxes and the taxes we collected from customers for local, state and national governments."

Marvin L. Hayes, Treasurer's Office, Standard Oil Company, Chicago, Illinois:

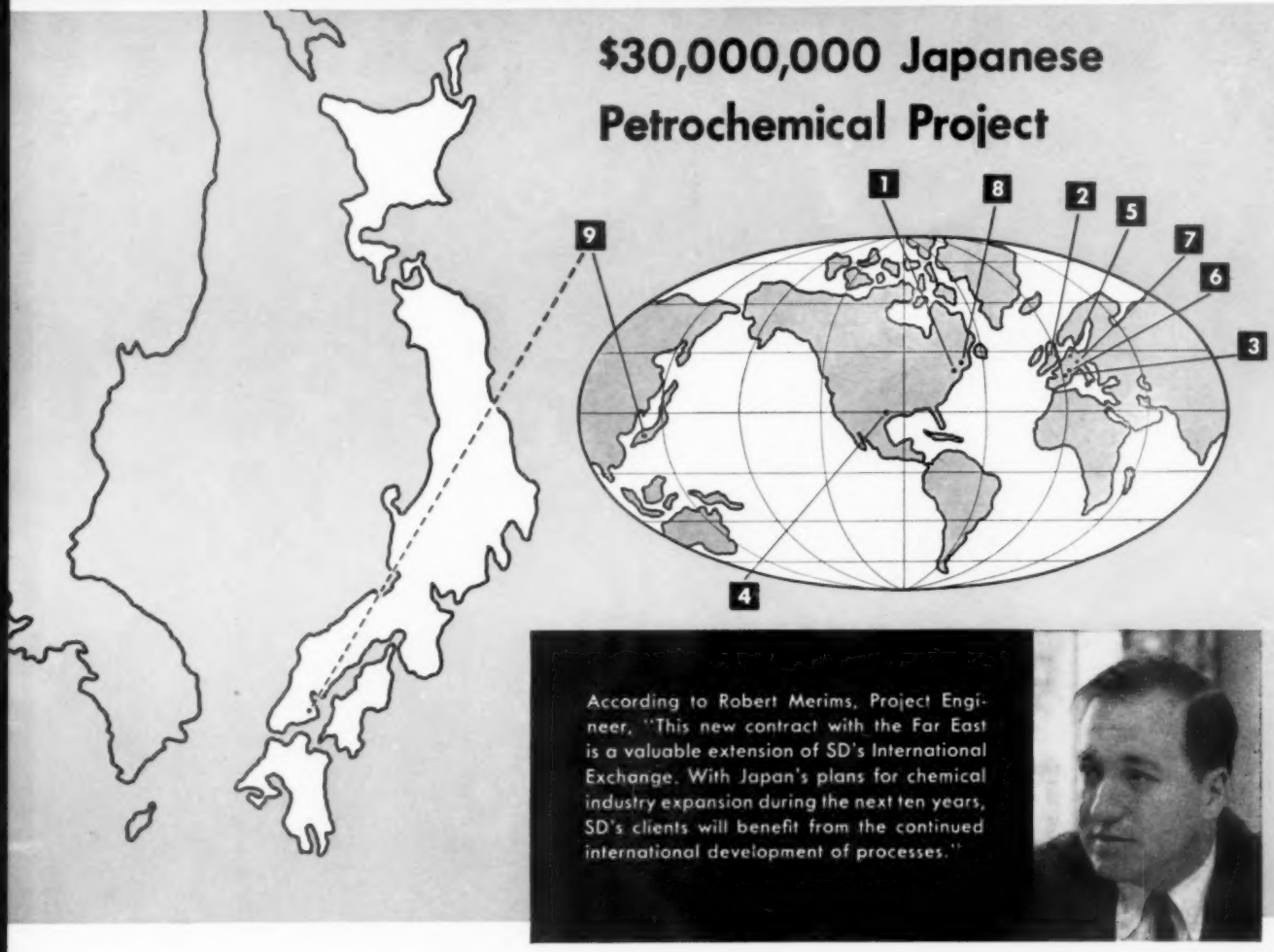
"Well, it's a small part of the total taken in, but as a return on their investment, a company pays dividends to its share owners. Dividends were paid in 1955 for the 62nd consecutive year. Our last dividend of the 1955 year went to 132,400 owners, many of whom are educational or charitable institutions like Children's Hospital, Detroit (shown above). Dividends amounted to 2.7 cents of each dollar we took in. The rest of what we took in, 4.8 cents per dollar, was retained for use in the business. Including the market value of the special dividend in Standard Oil Company (New Jersey) stock our dividends were equal to about 1/2 of net earnings."

What makes a business a good citizen?

Being open-and-above board, for one thing. That's the American way. Standard Oil Company and its subsidiaries report fully each year to government, shareholders, employees, and the public just what use was made of the money we took in. Copies of our Annual Report for 1955 are available on request as long as the supply lasts. Our address—Standard Oil Company, 910 South Michigan Avenue, Chicago 80, Illinois.

STANDARD OIL COMPANY (INDIANA) STANDARD

NEW DEVELOPMENTS


$30,000,000 Japanese
Petrochemical Project
1
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According to Robert Merims, Project Engineer, "This new contract with the Far East is a valuable extension of SD's International Exchange. With Japan's plans for chemical industry expansion during the next ten years, SD's clients will benefit from the continued international development of processes."

SD Has Complete Process Responsibility For Ethylene Oxide, Glycol and Cumene

In a move to regain Japan's markets in Southeast Asia, Mitsui Petrochemical Industries, Ltd., will build Japan's first major petrochemical project. Financed entirely by Japanese capital, this $30,000,000 facility will be comparable in size of investment to the largest petrochemical plants in continental Europe —among them in turn some SD clients.

Three key units in the first phase of this project, scheduled for completion in November, 1957, will utilize SD processes for these basic chemicals. Ethylene Oxide by direct air oxidation of ethylene; Cumene by alkylation of benzene with propylene; Ethylene Glycol by hydration of ethylene oxide. In addition to designing and engineering these processes, SD will also oversee construction and supervise initial operation.

The second phase of the Mitsui project, now in the planning stage, will produce dimethyl terephthalate and other chemical intermediates. A major part of this production will be used for the manufacture of synthetic textile fibres.

This is another example of how SD's "International Exchange" works. The ethylene oxide process, for instance, started in SD's American Laboratories (1); was developed in an English pilot plant (2); went on stream for the first time for Naphtachimie in France (3); shortly after was used in an American plant (4); another for Societé Chimique des Derives du Petrole in Belgium (5); an expansion of Naphtachimie (6); another European plant not yet publicly announced (7); the General Aniline and Film plant in Linden, New Jersey (8); and now across the Pacific to Japan (9).

With this project SD's cumene process takes its first trip abroad. In this country the Barrett Division of Allied Chemical & Dye Corp. is now producing cumene in its SD-engineered plant. Mitsui chose the SD process because it produces purer cumene than any other known process. And the plant may be adapted to production of other alkylates, such as ethyl benzene and diisopropyl benzenes.

Perhaps you can benefit from this worldwide experience in organic chemical plant design. Whether your project involves new plant construction, revamping existing facilities, developing a new process, acquiring an existing process or engineering one of your own, you will profit by SD's confidential service.

SCIENTIFIC DESIGN COMPANY, INC.
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Jersey City, New Jersey